

JAAP KUNST

HINDU-JAVANESE
MUSICAL INSTRUMENTS

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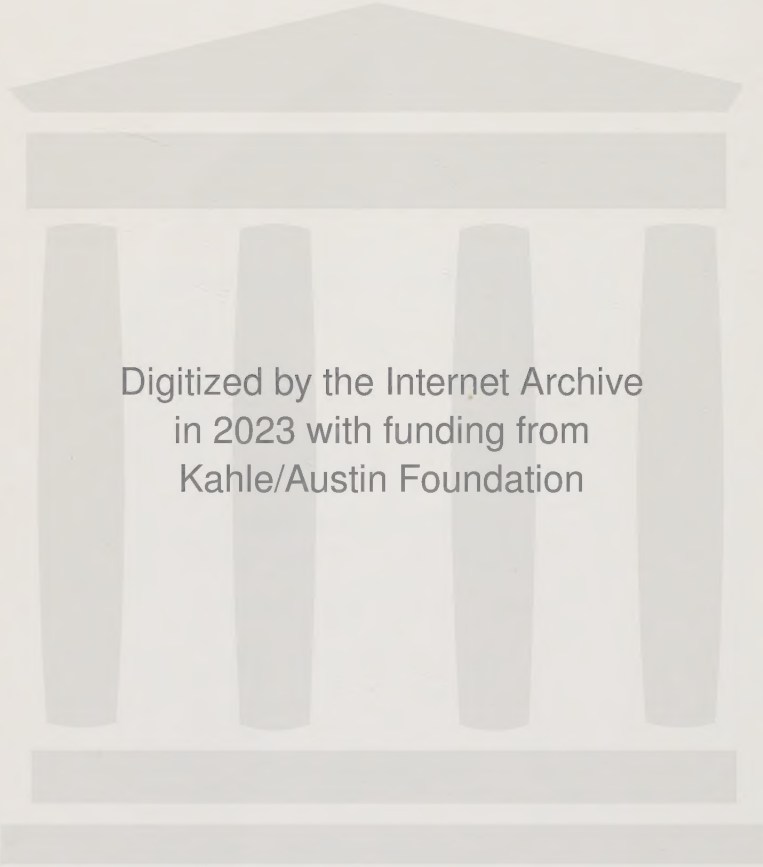
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HINDU-JAVANESE MUSICAL INSTRUMENTS

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JAAP KUNST

HINDU-JAVANESE
MUSICAL INSTRUMENTS

SECOND REVISED AND ENLARGED EDITION



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HINDOE-JAVAANSCH E MUZIEK-INSTRUMENTEN,
speciaal die van Oost-Java
door Mr. J. Kunst
met medewerking van Dr. R. Goris

Uitgegeven door het Koninklijk Bataviaasch Genootschap
van Kunsten en Wetenschappen - Weltevreden 1927



201040

PREFACE

At this moment, when the publication of the revised, English edition of my late husband's book on Hindu-Javanese musical instruments is near at hand, I wish to express my sincere thanks to all the friends and colleagues who have contributed towards the completion of the work which was left unfinished at the time of his death.

I am especially grateful to the Royal Institute of Linguistics and Anthropology in Leiden for publishing the book in its Translation Series.

It is my sincere hope that the results of my husband's work on a subject which claimed his love ever since the years which he spent working in Indonesia, may be of some use to all those who are interested in this and related fields of study.

C. J. A. KUNST-VAN WELY

EDITORIAL INTRODUCTION

The Editorial Board of the Royal Institute of Linguistics and Anthropology has pleasure in introducing the present volume in the Translation Series as a tribute to the memory of the author, Dr. Jaap Kunst, the well-known pioneer and expert in the field of ethnomusicology, who died in 1960.

The first edition of the present book was published in Dutch in 1927 as an adaptation of a lecture which the author gave on the opening night of the Congress of the Java Instituut in Surabaya on 23rd September, 1926. In the preface to the first edition the author explained to what extent the printed text had been expanded in comparison with the text of the lecture. He mentioned the invaluable assistance given him by Dr. R. Goris, who provided him with much new material, both from Old Javanese literature and from inscriptions. As his main sources for references to literature and charters the author mentioned the Old Javanese dictionaries by H. N. van der Tuuk and H. H. Juynboll, and the editions of charters by A. B. Cohen Stuart, J. L. A. Brandes, N. J. Krom and P. V. van Stein Callenfels. These sources have been mentioned in detail in the bibliography appended to the present volume. The great majority of the photographs published in the first edition was made available to the author by the then Netherlands Indies Archaeological Service.

When a new edition, in English, of the book was planned, it was obvious that the text would have to be expanded in view of the abundant material, literary and epigraphical as well as archaeological, which had become available since 1927 in the field of Hindu-Javanese culture. Dr. Kunst himself had completed a large portion of this work of checking and expanding the material and adapting the text. Many data on Central Java were added, so that the specification "especially those of East Java" could justifiably be omitted from the title. Epigraphical research, especially that by Dr. R. Goris and Mr. L.-C. Damais, turned out to be very valuable for the study of the musical instruments of Hindu-Java. In particular the ingenious techniques developed by

the latter for the precise dating of manuscripts and charters provided the author with a great deal of information, enabling him to draw up a more detailed chronology of the epigraphic material.

The publication of many Old Javanese texts, often with translations, in the period since 1927 provided the author with a wealth of information which could be incorporated in the present book. On the other hand, it was possible to omit a small part of the introduction from this edition as these pages had been incorporated in the author's publication entitled *Music in Java* (1949).

When Jaap Kunst died the preparation of the manuscript of the present edition, the English translation of which was initially undertaken by his son Mr. Jaap Kunst, Jr., had not yet been completed. The editorial board of the Royal Institute wishes to express its gratitude to the many friends and colleagues of the author who so generously offered their co-operation in finishing the book. It wishes to thank especially the late Dr. Arnold A. Bake, Reader in Sanskrit in the School of Oriental and African Studies of the University of London and a close friend of the author, who, together with Mr. Nazir Jairazbhoy, Lecturer in Indian music in the same School, and Mr. Jack Dobbs, at the time Lecturer in the Institute of Education of the University of London and now Director of Musical Studies, Dartington College of Arts, undertook to check the presentation as to correct form and content of important sections of the text. Mr. Walter IJzerdraat for assisting in the preparation of the typescript. Dr. C. Hooykaas, Reader in Old Javanese in the School of Oriental and African Studies, who paid special attention to the bibliography. Dr. P. Voorhoeve, former General Secretary of the Royal Institute of Linguistics and Anthropology, who, after the musicologists in London had assisted the editors with their specialist knowledge, checked through the manuscript and gave directions as to the best way of reproducing the photographic material.

A special debt of gratitude is owed to Dr. A. A. Cense, who, after the retirement of Dr. Voorhoeve, undertook the arduous task of editing the text and preparing it for the press. He took the philological aspects of the book in hand and checked all the linguistic material incorporated in the text as well as the bibliographical notes, tables, indexes and captions for the photographs, completing these where necessary. During this work help was received from many sides. On the meaning of some terms Professor P. J. Zoetmulder of Gadjah Mada University, Jogjakarta, kindly procured information based on his vast Old Javanese lexicographical collection. Dr. P. H. Pott, Director of the National

Museum of Ethnology, provided new photographs of the Bhairawa statue in this Museum and supervised the preparation of new reproductions of some of the photographs of the former Netherlands Indies Archaeological Survey which are preserved in the collections of the Kern Institute in Leiden. Mr. S. O. Robson, M.A., was always willing to help when difficulties of translation arose.

We are also very grateful to Drs. F. baron van Lamsweerde, once Dr. Kunst's assistant and at present a curator of the Royal Tropical Institute, who not only in the first stage of the completion of the manuscript but also afterwards at any time readily placed his knowledge of musicology at the editors' disposal when specialist advice was needed. Drs. Van Lamsweerde also kindly undertook to read through the proofs and check the text once more in respect of musicological information.

In the final stages of the editorial work the editors were fortunate in having the invaluable assistance of Mrs. W. E. Haver Droeze, whose painstaking accuracy is largely responsible for the book's consistency in the technical arrangement and presentation of the material.

The Editorial Board wishes to express its sincere thanks to Mrs. C. J. A. Kunst-van Wely for helping the editors in every possible way to achieve the form which her late husband intended for this book.

In conclusion a few remarks should be made about the lay-out of the present edition of the book.

In checking the names of instruments included in Tables A and B special attention has been paid to the names taken from Van der Tuuk's *Kawi-Balineesch-Nederlandsch Woordenboek*, a great number of which were contributed to the first edition of the present book by the late Dr. R. Goris. In this new edition the exact dictionary references have been added in footnotes.

Moreover, in addition to those editions of Old Javanese texts which were available to the author in translation, Dr. Cense consulted several text editions which were not accompanied by a translation. In the search for names of musical instruments in these Old Javanese texts many relevant references were found, which were added to Tables A and B and inserted in the text or in the footnotes of the different paragraphs. In a few cases, when names of instruments which the author had not discussed in his work were found, the editors merely added these names, refraining from expressing views on or venturing suppositions about the character of the instruments to which they referred.

When it was deemed necessary to refer to recent works this has been done, but only on a very moderate scale.

Throughout the book the charters and literary works which contain names of musical instruments are referred to in abbreviated form. In the List of Abbreviations at the end of the book ample bibliographical information is given. Moreover these abbreviations are arranged in an index (pp. 118-119) to Tables A and B, with a reference to the pages in the tables where the charters and works indicated by them are mentioned.

The spelling of words from Indonesian languages follows the system which in recent years has been adopted for use in scientific works. This implies that *c* always stands for English *ch*. For Sanskrit words the traditional method of transcription of Devanāgarī characters is followed; some slight variations will be met with, *e.g.* palatal *s* is sometimes written as *ç*, sometimes as *ś*.

The names of instruments are given in the form in which they are found in the text editions. This explains the differences in spelling of loanwords which occur in Tables A and B, *e.g.* the word for shell-trumpet one will find written as *çangkha*, *çangka* and *sangka*. In the Tables in the alphabetical order of words the combination *ça* comes after *sa*.

Indigenous place-names are mostly written in the generally used presentday spelling; the editors apologize for slight deviations from what has been adopted as a general rule, *e.g.* the rendering of Indonesian *j* by *y* in some cases.

Wherever proper names are printed in small capitals they refer to the List of Abbreviations and of Bibliographical Notes at the end of this book; the same applies to spaced proper names in the notes.

THE EDITORIAL BOARD

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INTRODUCTION

When I first came into contact with the music of Java, more especially with that of the Sunda districts, at the beginning of the twenties, it soon became clear to me that the music of the highlands of West Java had virtually no "history". The Sunda country appeared to have a rather primitive but — perhaps precisely for that reason — highly interesting range of musical instruments, of which those made of bamboo featured most prominently. To mention a few: the *gamelan celempung*¹ and *ketuk awi*,² *kendang awi*² and *gumbang*;³ the *calung*⁴ and the *angklung*,⁵ the *rèngkong*⁶ and the *hatong*.⁷ There was a great number of local differences and theoretical knowledge was sketchy and very diffuse.

Later I found that in contrast the music of Java proper showed a much more uniform pattern. There were complete bronze orchestras in large numbers (apart from various bamboo instruments), and gradually a picture emerged of a many centuries old history, and of a well-founded musical system and theory.

It must of course be realized that communications may have been difficult in mountainous West Java, and that the princedoms that existed there in various periods were never very powerful.

In contrast, the central and eastern parts of the island were areas of lowland cultures and proud dynasties, where great power, sometimes controlling the entire Archipelago, had its seat, and where, from at least the 8th century to the beginning of the 16th century — *i.e.* over a period of 800 years — Javanese cultural life had its centre.



¹ An orchestra of which the principal instruments are bamboo idiochords. Cf. *Kunst* IX vol. I p. 382.

² Bamboo idiochords. Cf. *Kunst l.c.* p. 369 *sub* IIIa.

³ Bamboo aerophone. Cf. *Kunst l.c.* p. 240.

⁴ See hereafter pp. 71, 72 and 74. Cf. *Kunst l.c.* pp. 364 ff.

⁵ See hereafter pp. 59 and 85. Cf. *Kunst l.c.* pp. 361 ff.

⁶ A combination of a carrying-pole and a scraping instrument. Cf. *Kunst l.c.* pp. 365 ff.

⁷ Pan-pipe. Cf. *Kunst l.c.* pp. 376 ff.

The sources from which we have drawn our knowledge of the music of the Hindu period are by no means prolific. However they are sufficient to get a reasonable picture.

What are these sources?

First of all the temple reliefs. Then a number of excavated bronze and terra-cotta images, and a fairly extensive number of key-series and gong-chimes, single gongs, bells and other instruments. Furthermore a great number of foundation charters on bronze and stone slabs, sometimes passages in old Chinese chronicles and, with regard to Eastern Java,⁸ the Old Javanese and Old Balinese literatures. On a large scale, finally, the comparison of the old and the present Javanese and Balinese instruments with those of other peoples, and also — and this by no means in the last instance — the study of the cultural-historical and political development of the Archipelago, more specifically in Sumatra, Java and Bali, in connection with that of India, Indochina and China.⁹



It may be assumed on acceptable grounds that the peoples who settled in Java coming from South East Asia (Yunnan?, via Indochina) many centuries B.C., and who subjugated or exterminated the original population, knew the *pélog* scale. *Sléndro* — the other modern Javanese tonal system — was presumably still unknown to them. This was possibly introduced by the latest arrivals, the ancestors of the present Javanese. Not until the middle of the 8th century, when the Çailéndra dynasty¹⁰ took possession of a part of Central Java, did it (possibly together with the *wayang purwa*) become the dominant system in Java, originally only in Central Java, but later in the larger part of Eastern

⁸ The Old Javanese version of the Rāmāyana may be an exception. In an article in the Jubilee Volume published in 1926 by the Royal Institute of Linguistics and Anthropology (pp. 265 ff.), Poerbatjaraka introduces philological arguments in favour of an older, Central Javanese origin of this epic, which would suggest that it dates back to the so-called Restoration Period (i.e. after the Çailéndra rule and before the end of the Central Javanese period), in other words between 850 and 915. The nature of some of the instruments named in this poem makes this early date not unacceptable. I am thinking here of the instruments or instrument-names known from the oldest dated charters and of those that can be placed in that period for other reasons (*kinnara*, *mahāsāra*, *regang*, *tuwung*, *winā*).

⁹ For the history of the whole of the Hindu-Javanese period see Krom II which, however, according to articles by Berg and De Casparis, is apparently already somewhat dated.

¹⁰ *Gamelan s(a)léndro* = *gamelan* Çailéndra? Cf. Kunst IX vol. I pp. 18 and 19.

Java as well (as a result of political events in Central Java). Subsequently it reached Bali, still inseparably linked with the *wayang purwa*.¹¹

Consequently it may be permissible to say that when Java enters history proper, both tonal systems exist side by side: *sléndro* used for the *wayang purwa*, at first performed mainly on stringed instruments and later on bronze *gendèrs*; ¹² *pélog* on various bamboo instruments and xylophones. The flutes of that period may have been tuned according to either system. Gradually the stringed instruments disappear, bamboo instruments are pushed into the background, and steadily increasing and versatile bronze ensembles come into being, known to us as the *gamelan*, tuned either to *pélog* or to *sléndro*.



The *gamelan* as we know it is a comparatively recent phenomenon. In POERBATJARAKA's resumé of an 18th century work, the Serat Kaṇḍa (in POERBATJARAKA II), which contains a story of Pañji, one reads about Dangḍang-gendis (p. 69), ruler of Koripan, who has an orchestra which is still not quite the *gamelan* as it is known today; in addition it comes from outside Java and is therefore foreign. It consists of *gong*, *keṇḍang*, *ketuk* and *kecapī*. Of course this does not mean that the constituent parts of the *gamelan* as we know it today are also of comparatively recent date. The contrary is true as will be demonstrated in the next chapters.¹³

Even if there had not been clear literary or sculptural proof concerning certain instruments, such words as *tabeh-tabehan* ¹⁴ (orchestra), derived from *tabeh* (to strike, modern Jav.: *tabuh*) and *tatabuhan* ¹⁵

¹¹ For an extensive discussion I may refer to Kunst IX vol. I pp. 15-24.

¹² Cf. pp. 71, 72, 76 and 78.

¹³ For a comprehensive table of the earliest dates see Table A (pp. 90 ff.). It may perhaps become possible at some future date, by comparing the instruments of the non-dated manuscripts and charters (Table B, pp. 103 ff. hereafter) with those of the dated ones, to find clues as to the age of the first-mentioned, a group nowadays still deplorably large.

¹⁴ B.K. LXXXI 26; B.Y. XXXIX 2; C.A. IX, XII, XIII; Hrs. I 79b, II 41a, 41b, IV 40a, V 45b, 53b, 62a, 76b, 94b, 114b, 123a, VI 35b, 70b; K.O. VII 2a, 3; K.S. II 44; R. XXIII 76; R.L. VII 55, 62, IX 104, XI 14, 125, 152; S.T. VII 85; Sum. CXIII 3; T.K. 29; Ud. 90, 111; W. XXVIII 13; Wir. 68, 96; Wrh. 33.

¹⁵ B.B. 9, 25, 26, 57; Hrs. II 25a, 25b, 44b, V 33b, 61a, 75a, 89a, 99a, 131b; K.K. 73; K.S. I 42a, II 48, 90, 137, 200, III 68; K.Snd. I 33, III 10; Pam. I 110, IV 72, 220, 241, 245, 322, 329; Par. XIX 3, 16, XXII 35; R.L. I 49, III 2, VI 29, VII 31, 36, 66, 82, IX 77, 101, XI 99, 140, 169; Sor. III 13, 47, 59, 63, 65; S.T. V 68.

seem to suggest a fairly old age in Java of at least part of the idiophones played with a hammer (*tabuh*), in other words, of a kind of *gamelan*, largely consisting of these instruments (*cf.* Chapter V). The word *gamel* (original meaning: to handle), of which *gamelan* is a derivation, also appears as a musical term as early as the 12th century.¹⁶

However, some other words also meaning 'to strike', used in connection with certain instruments, cannot be used as an argument in favour of the existence of *gamelan* instruments. These are the words *anapuk*¹⁷ (from *tapuk*) and those derived from the word *pukul*: *apukul*,¹⁸ *pamukul*,¹⁹ and *amukul*,²⁰ all of which were known at the beginning of the 10th century.

In the cases known to me, *anapuk* does not occur in the sense of 'to strike' as regards a *gamelan* instrument. According to a so-called *awig-awig* (an Old Balinese collection of injunctions) *anapuk* was used to indicate the beating of the *kulkul* or *titir*, *i.e.* the *kenṭongan* or *tongtong*, the alarm-log or slit-drum: ²¹ *apukul kadi anapuka titir*, *i.e.* "they struck (the instruments) as though they were giving the alarm".²² This explains some secondary meanings: 'to hold a meeting' and even 'to stage a *wayang*-show'. For in Old Javanese society, as in present-day Java and particularly in Bali, the beating of the *kulkul* served and serves to call people together for meetings and festivities. It is possibly in this connection that the words *atapukan*, *matapukan* appear in some of the charters.²³ There they are used to indicate an action forbidden in the sanctified precincts of a temple or cloister and it is always placed just before or between the words of the "*wayang*-group", and never among those of the "music-group".²⁴ Presumably *matapukan*²⁵ and *atapukan*²⁶ which will be mentioned again presently, have the same

¹⁶ B.Y. V 7. Also K.K. 73. See for *gamelan* Table B at B.T.; Hrs.w.; Mal.; Pam.; Panji K.N.; S.K.; Sor.; S.T.

¹⁷ KBwb. II 724.

¹⁸ Buwahan A III 8; Br. I pp. 615 ff. 2a.

¹⁹ Sukawana A I, IIa 2; Truñan A I, IIa 1 and Truñan B Ib 5; Br. I pp. 615 ff. 2a.

²⁰ Pandak-bandung (E.B. pp. 14 ff.) IIIb 5 and Vb 1; Br. I pp. 607 ff. 5b, pp. 613 ff. 2a, 2b and pp. 619 ff. 5b; Br. II pp. 49 ff. 9b; Batur P. Abang A, VIb 2.

²¹ See hereafter pp. 56-58 ff.

²² Ww. III 153.

²³ Pandak-bandung (E.B. pp. 14 ff.) Vb 1; Br. I pp. 607 ff. 5b; Br. II pp. 49 ff. 9b; O.J.O. LIX *verso* 16; O.J.O. LXIV *recto* 29.

²⁴ *Cf.* hereafter p. 33.

²⁵ O.J.O. CVIII b 4.

²⁶ O.J.O. CXII 11a.

meaning in the references where they stand for certain functionaries.

Concerning the word *pukul* and its derivations, in some Old Balinese charters²⁷ the words *agenḍing* (*pagenḍing*, *paganḍing*) and *amukul* (*ḥamukul*) appear next to each other, which also shows that the *genḍing*-playing and the *pukul* of certain instruments were not identical. The first-mentioned word probably referred to the playing of real musical instruments (whatever they were) and the latter to the striking of signalling devices.

Other proofs for the existence of bronze idiophones are, on one hand, the reliefs of the Diḅng temples (before 750 A.D.), Caṇḍi Sari (c. 750), Barabuḍur (824) and Prambanan (c. 850), and on the other hand the term *paṇḍai gangsa*, the earliest mention of which known to me is dated 862.²⁸ *Paṇḍai* (or *paṇḍé*) means 'smith'; *gangsa* (Sanskrit: *kamsa*) is, as is generally known, the usual name for the alloy of which the keys and kettles of the bronze *gamelan* instruments are made (usually three parts of tin and ten parts of red copper).²⁹

However, as for the words *genḍing* or *ganḍing*³⁰ and their derivations appearing in literature in the sense of orchestra, nothing can be found about the nature of the ensemble meant — in that respect they have no specific meaning.

²⁷ Pandak-bandung (E.B. pp. 14 ff.) IIIb 5; Truṇian A I, IIa 1; Truṇian B Ib 5; Buwahan A III 8.

²⁸ O.J.O. VII *verso* 12; furthermore O.J.O. XXX *recto* 19.

²⁹ In modern Bali the word is also used for certain idiophones, namely those with bronze keys lying on a wooden frame. In Priyono's translation of the Sri Tañjung *gangsa* is rendered by *gamelan* (V 176). Other references for *gangsa*: Smar. XXIX 8 and R. XXVI 13. *Gong gangsa* is rendered by Poerbatjaraka by 'copper gong'.

³⁰ Charter Frankfurt N.S. 21319 *recto* 8; Br. I pp. 607 ff. 5b; Br. I pp. 619 ff. 5b; Br. II pp. 49 ff. 9b; Bebetin A I, IIb 5; Batur P. Abang A VIIb 2; O.J.O. XLVIII *verso* 46; O.J.O. LXXXIII 8a, 8b; O.J.O. CVIII b 4; Gobleḡ (Pura Batur) B (E.B. pp. 8 ff.) VIa 6; Pandak-bandung (E.B. pp. 14 ff.) IIIb 5, Va 5; Truṇian A I, IIa 1; Truṇian B Ib 5; Buwahan A III 8; K.O. I 3, 12; K.O. VIII 4b, 3; Adip. 202; B.K. LXXXII 1, 11, CII 8; B.Y. V 8, XXXVI 8, XLII 1; L 5; Sum. XXXIX 2, CXIII 3; R.L. III 2, VI 13, VII 79, 94, 132, IX 104, XII 15; R. XXVI 7, 24; K.K. 73; H.W. XXVII 7, XXXII 7, XXXVI 7; Smar. XXIX 8, XXXIII 3; C.A. VIII, IX, XII, XIII; Hrs. II 144a, IV 25b, 30a, 41a, 47b, 53b, V 33b, 45a, 61a, 71a, 75a, 81b, VI 33b, 91a; Pam. II 46; B.B. 50, 62; Sut. LXXIII 15b, LXXX 4b, XCIX 7c, CXLVII 12c; Catur. 5; T. I 5; Batuan IIb 3, IVb 5, 6; Pg. 4.

The word now usually means *gamelan*-composition. However, bear in mind the term *tukang genḍing*, *gamelan* smith (synonymous therefore with *paṇḍé gong* and *paṇḍé gangsa*) and the name of the *kampung* where the principal *gamelan* smiths of Semarang used to live: *kampung Genḍingan* (Jacobson, p. 3) and the Balinese *gamelan* name *genḍing luwang* (see hereafter pp. 72 and 73).

The same applies to the term *gupi* (*agupyan*), when it means 'play'.³¹

Taking all these things into consideration, I do not wish, however, to express a definite opinion about the origin and the real age of the *gamelan* instruments. Research in that direction is beyond the scope of this treatise.³²

The large orchestras in the princely palaces (*kraton*) of our day which in the last three centuries have played such an indispensable part in ceremonies and festivities, appear to have had their origin in the late Hindu period through what could perhaps be called a marriage of the gentle "feminine" instruments of the chamber orchestra (*gambang*, *gendèr*, *rebab*, *suling*, etc.) and the "masculine" war music (*gongs*, *bonangs*, drums, etc.). In any case, from the fact that Prapañca in his detailed description of the Majapahit *kraton*³³ does not mention large orchestras, one gets the impression that as late as the 14th century orchestral music had in no way attained the position it has today in the Central Javanese *kratons*. For instance, these orchestras now have special storage places set aside for them; every Thursday evening incense is burnt before their drums and large gongs; each of them is played exclusively in one place which has its own name, and many of them serve a highly specialized function in the court ceremonies.³⁴ With regard to the *kraton* of Majapahit, STUTTERHEIM³⁵ supposes that the sacred part reserved for the *çaiwaboddha* priests is identical with the place in the *kraton* of Jogjakarta where the archaic *gamelan monggang*³⁶ is played at certain ceremonies.³⁷

Although an orchestra such as the present large *gamelan* had not yet been born, it is certain that music traditionally occupied a most important place in Hindu-Javanese society. The large number of musicians amongst the lower officials mentioned in the charters makes this abundantly clear. Such officials (usually indicated in each case by their own personal name: Si Kresnī, Si Nañja, Si Mandal, Si Barubuh etc.) in the 9th and the beginning of the 10th century are for instance:

³¹ R. VIII 109; B.K. LXXIV 6.

³² See, however, *Kunst* IX vol. I pp. 142 ff. (for the *gong*) and *Kunst* XI (for the *kemanak*).

³³ Nag. Cantos VIII-XII.

³⁴ *Kunst* IX vol. I pp. 246, 259, 262, 265.

³⁵ Stutterheim II pp. 40/41, 51 and the footnote on p. 68 note 168.

³⁶ Cf. *Kunst* IX vol. I pp. 257 ff.

³⁷ Cf. *Kunst* l.c. pp. 265 ff.

<i>pimuraba</i>	(O.J.O. VI 18)	
<i>juru paḍahi</i>	(O.J.O. XXX <i>recto</i> 13, CVIII b 4)	
<i>tuha paḍahi</i>	(O.J.O. XII b 3, XXIII 6, XXXV 11, XXXVI <i>verso</i> 5, LIV <i>verso</i> 12; K.O. XIV b 1, XV a 7, XVII 6; E. 46)	
<i>mapaḍahi</i>	(K.A. IIIa 20; O.J.O. IX 1b, 2a, XLVI <i>recto</i> 21; K.O. XXII 3a 6/b 1, Pengotan A I, IIb 1; K.T. <i>verso</i> 13)	the chief drummer (<i>cf.</i> pp. 38-40)
<i>apaḍahi</i>	(O.J.O. CXII 11a)	
<i>paḍahi manggala</i>	(O.J.O. VI 24)	
<i>sangat mapaḍahi</i>	(Br. I pp. 613 ff. 2b)	
<i>matapukan</i>	(O.J.O. CVIII b 4)	the chief <i>kulkul</i> -striker (something like chief of the public information service (<i>cf.</i> pp. 56-58))
<i>atapukan</i>	(O.J.O. CXII 11a)	
<i>anuling</i>	Batur P. Abang Charter A VIb 2)	flautist
<i>magandīng</i>	(O.J.O. CVIII b 4)	leader of the orchestra (modern Javanese: <i>lurah gendīng</i>)
<i>rāwanahasta</i>	(O.J.O. CVIII b 4)	the principal lute player (<i>cf.</i> pp. 15 and 17)
<i>arawanasta</i>	(O.J.O. XXXVI <i>verso</i> 6, 22)	
<i>mareg(g)ang</i>	(K.A. IIIa 20; K.T. <i>verso</i> 14)	leader of the cymbal corps (<i>cf.</i> pp. 50 and 70)

<i>widu mangidung</i>	(O.J.O. XXXV 11, XLVI <i>recto</i> 21, XLVIII <i>recto</i> 24; K.O. XVII 6, XXII 3b 1), see also K.O. XV a 7	<i>kidung</i> ³⁸ singer
<i>mabrekuk</i>	(K.A. IIIa 20)	presumably the <i>kemong</i> -striker and leader of the cock-fights (cf. pp. 62 and 63). If so, then = modern Bal. : <i>juru kemong</i> .

This clearly constitutes an impressive list of *kraton* and temple officials in musical positions.

³⁸ *Kidung* = Middle Javanese poem using one of the indigenous Javanese metres. This in contrast to *kakawin* = Old Javanese poem using one of the classical Indian metres.

II

CHORDOPHONES

A. Harps

Harps present a curious case. German musicologists distinguish two main forms: the angular harp ("Winkelharfe") and the arched harp ("Bogenharfe") which were found in the larger part of the Old World, from West Africa to North Korea. Often they existed side by side, for instance in Ancient Egypt, in Mesopotamia and in Turkestan.

The angular harp, characterized by a resonance-chamber making a 90-degree angle with the base to which the strings are attached, is virtually extinct nowadays. Similarly the arched harp, which has a small slender boat-shaped resonance-chamber attached to the markedly curved part to which the strings are fixed, has become rarer. Whereas formerly it appeared nearly everywhere from West Africa to the east coast of Asia, now it is only found in Africa in Mali, in part of the Congo and Uganda, in Europe only in the western Caucasus amongst the Abkhassians, in Asia only amongst some west Siberian peoples (Ostyak, Vogul), in Kafiristan (*i.e.* the S.E. slopes of the Hindu Kush) and in Burma and Thailand. It is noteworthy, however, that according to many pictures that have come down to us, the strings of the old arched harps were stretched by means of cords: only part of the western (the African) forms had — and still have — tuning pegs¹ or at least tuning plugs. As far as is known, only the tuning device using cords appears, or appeared, in India, Turkestan and in Thailand. Now in Burma and Java the pegs (or plugs) suddenly appear again, although the tuning by means of cords has also been in vogue there. I do not know how this phenomenon can be explained. Would it be correct to think of a Central Asiatic origin producing arched harps of both types?²

¹ Sometimes with a most ingenious adjustment mechanism (*Cf.* Chauvet, fig. 6).

² The above had been written when Nazir Ali Jairazbhoy gave me a picture of an Indian arched harp with seven plugs or pegs, thus far the only one known from that territory. It is an illustration of an (apparently bronze) statuette of *Çrī* in a publication by P. K o t a ṇ ṭ a r ā m a ṇ, *Tamiḷicai Kkaruvikaḷ* (1945). This does not of course affect our supposition, or at least not in a negative sense.

Of the five Old Javanese pictures of arched harps known (three on the Barabuḍur,³ one on the Jalatuṇḍa reliefs, and one in bronze at Ngandjuk), three show clearly the pegs (or plugs) (figs. 16, 45 and 46), and two (both on the Barabuḍur) are presumably stretched by means of cords (fig. 24), since no pegs are visible. All date from the period of c. 800 to c. 1000⁴ and two of them, those of Ngandjuk and Jalatuṇḍa, are from East Java. They show differences not only in the way they are strung, but also in the number of strings, of which — according to the number of pegs — the Barabuḍur harp⁵ has ten, the Ngandjuk harp seven (fig. 45) and the Jalatuṇḍa harp four (fig. 46).⁶

Apart from the differences mentioned, there are some others pertaining to the shape of the resonance-chamber. The two "cord" harps (Bar. Ia 1 and II 1) — identical in shape — and the Jalatuṇḍa "peg" harp have no exact continental counterpart as far as I know. The "peg" harp of the Barabuḍur Ia 52 (our fig. 16) and that of Ngandjuk, disregarding the *makara* (see below), look like the saucer-shaped Burmese *tsaung* (fig. 86). However as a rule the strings of this *tsaung* are stretched by means of cords.⁷

I doubt whether these harps have ever been popular in Java. They may have been confined to the ruling castes and may never have been in vogue among the lower classes. I am inclined to think the same about the different kinds of lutes and bar-zithers (which will be discussed later), otherwise they would not have disappeared without a trace from the Javanese and Balinese ranges of instruments.⁸

A remarkable demonstration of this assumption is provided by the Ngandjuk harp.

The ancient Egyptian name for the arched harp (as early as the fourth dynasty, *i.e.* the dynasty of the pyramid builders of about 2500

³ Bar. Ia 1 (right side), 52 and II 1.

⁴ Here and elsewhere the Christian calendar, which is 78 years ahead of the Old Javanese *çaka* calendar, has been used.

⁵ Krom, who had had no musicological training, referred to the harp as "a cither with tassels" (Krom III vol. I p. 156 and Bar. relief Ia 52).

⁶ The harp-player depicted on this Jalatuṇḍa relief, dated 977 A.D., according to Bosch must be the legendary Udayana, King of Vatsa and a widely acclaimed *vīṇā*-player. The text illustrated by the relief runs: "Sweet is the sounding of its strings, divided according to the division of the *çrutis*". (See Cultureel Indië, VII (1945), pp. 15, 17; epitomized in Bosch, pp. 63, 65).

⁷ The "peg" harps of the Burmese province of Tenasserim (fig. 87) are, as regards the shape of their resonance-chambers, markedly different from the more widely known *tsaung*.

⁸ On the periphery of the Archipelago, however, some related types exist (*cf.* pp. 16 ff. with the notes 46, 47, 54-56 and p. 21 with the notes 80 and 81.

B.C.) is *bjn.t* or *b.n*, Coptic: *vini*, corresponding in India with Sanskrit: *vīṇā*; Hindustani: *bīn*; Thai: *p'in*.⁹ This word was also used later in Hindustan for other stringed instruments using one or two gourds as resonance-chambers. However, in Ancient India the term *vīṇā* is usually linked with a specifying word, for instance: *viṣaṅcī-vīṇā*, *citra-vīṇā*, *kacchapī-vīṇā*, etc. Most probably there has also existed a *makara-vīṇā*, a *vīṇā* displaying the *makara*, the mythical fish-elephant, as decoration. In South India, an instrument did occur which in Tamil was called *makara-jāl*, *jāl* being another name for *vīṇā*.¹⁰ The Jalatuṇḍa harp shows us how the *makara* ought to be fashioned on an arched harp, that is on the lower end of the resonance-chamber, where it forms the richly decorated "poop" of the instrument. However, the Ngandjuk bronze-caster, who must have been ordered to cast a statuette of the goddess Saraswatī playing a *makara-vīṇā*,¹¹ had obviously never seen such an instrument and his surroundings could not provide one. Otherwise he would never have been able to do what he did: putting the *makara* (as BOSCH was the first to realize) on top of the resonance-chamber, just where the strings should be. If the harp had been commonly known amongst the people, as is the case with the *tsaung* in Burma, such a mistake would not have been made.

It has been assumed that in Java, as well as in India, the name *vīṇā* (*wīṇā*) also referred to the arched harp. This word, found repeatedly

⁹ See Sachs III p. 29. This similarity in name shows an unmistakable relationship which could either indicate a common origin in a still older culture, or a later import from Egypt to India.

¹⁰ Communication by N. A. Jairazbhoy.

¹¹ The fact that the only harp-playing (and also — see p. 14 — the only lute-playing) bronze statuette represents Saraswatī, is explained by the magical affinity between this goddess of music and the wooden stringed instruments in particular. "‘Die Götter’, sagt Vāc [*i.e.* Sarasvatī] im Rigveda (X 125, 3, 6), ‘haben mich vielfach zerlegt; ... ich bin in Himmel und Erde eingegangen’. So gibt es denn nicht allein menschliche Rede; die ist nur ein Viertel aller Rede. Die andern Viertel sind die Rede der vierfüßigen Tiere, der Vögel, des kleinen Gewürms (Çatapathabrāhmaṇa IV 1, 3, 16). Auch in den Bäumen wohnt Vāc; das ist der Klang der aus dem Holz der Bäume gemachten Instrumente, der Trommel, der Flöte, der Laute (Taittirīyasamhitā VI 1, 4, 1)." ("‘The Gods’, says Vāc [*i.e.* Sarasvatī] in the Rigveda (X 125, 3, 6), ‘have divided me up several times; ... I have entered into heaven and earth’. Hence there is not only human speech; that speech is only a quarter of all speech. The other quarters are the speech of quadruped animals, of the birds, of the vermin (Çatapathabrāhmaṇa IV 1, 3, 16). Vāc also resides in the trees; it is the sound of the instruments which are made of wood of the trees, of the drum, of the flute, of the lute (Taittirīyasamhitā VI 1, 4, 1).") (Oldenberg, p. 81).

in Old Javanese literature,¹² was however also used for stringed instruments in general. This is demonstrated by such combinations as *makinnara malāwu-wiṇā* and *wiṇā-rāwaṇahasta* (*wiṇā-rāwaṇaṣṭa*, *wiṇā-rāwaṇa*), which I believe refer to a bar-zither and a lute, to be discussed later. Therefore, if the author fails to add a determining word, as in the cases mentioned, it seems impossible to determine whether *wiṇā* refers to an arched harp, lute, bar-zither or perhaps yet another stringed instrument.

Finally, as for the instrument-names *ma(n)deli*¹³ and *winipaṇca*,¹⁴ I may refer resp. to pp. 20 and 15 hereafter.

To give an idea of the points of agreement and difference between the Javanese arched harps and others, some pictures have been included, four of Indochinese harps — *i.e.* of the forms mentioned previously (figs. 86 and 87), of a Thai *p'in* (fig. 83) and of the instrument (fig. 84) appearing on one of the reliefs of the Bayon temple (Cambodia) — and two of an ancient harp from Chinese Turkestan (fig. 85) and of the recently found specimen from Kafiristan (fig. 85a).¹⁵

B. Lutes

A characteristic of nearly all the lute-shaped plucked stringed instruments which we shall now examine, is that they do not possess a real neck in the sense that a European mandoline or guitar has a neck. The neck of the lute is formed by a narrowing of the body of the instrument so that this may be called pear-shaped. Furthermore, the back is only slightly arched.

Two main types and many intermediate forms of this lute are found in South and South East Asia: a broad, more or less squat type and a slender one. Apparently both forms existed side by side in Turkestan. In India, where in olden times the instrument seems to have been fairly general, it would appear that a more or less broad type prevailed, as in North China and Japan (figs. 89 and 90). In South China (fig. 88)

¹² Wir. 30, 52, 53, 85; R. III 39, VIII 167, XII 23, XVI 10; Ag. 371; Kor. 128; Smar. IV 10; S.S. 6; W. XXXI 1; Utt. 104; Sw. 10 b; T. V 102.

¹³ Mal. (version a); T.K. 17; Smarw. 14, 15.

¹⁴ B.Y. VI 1.

¹⁵ Examples of Indian harps can be found in Grünwedel II p. 16; Havel pl. VIII (our fig. 120); Burgess pls. 16 and 116; Coomaraswamy (our fig. 119); Marcel-Dubois pp. 80 ff. — From Turkestan there are pictures in Stein I; Grünwedel I p. 261 fig. 264 (our fig. 85); from Kafiristan in Alvd (our fig. 85a); from Burma in Sachs II p. 140; Knosp I p. 3095 b, and Courant p. 176 fig. 214; from Cambodia in

and Further India, the slender type was used mainly, and possibly exclusively. This suggests that the Old Javanese lutes, which, with one late exception,¹⁶ are all slender, were brought by a cultural wave from Further India. This ties in with other data, musical and philological as well as ethnological.¹⁷ A further clue as to the origin of the lutes in Java is the presence of many three-stringed instruments (figs. 3, 10, 22, 23, 35 and 44): lutes with that number of strings are, apart from Hindu-Java, only known from Further India.¹⁸ At the end of the 8th century A.D., the ruler of Burma presented the Chinese Emperor with two kinds of three-stringed lutes.¹⁹

The Barabudur lutes²⁰ (figs. 8, 10, 13, 14, 15, 16, 22, 23, 26, 27 and 30), although all of the slender type, show many variations. Most are played with a plectrum;²¹ some are very narrow;²² sometimes they have frets,²³ sometimes not; they appear with two,²⁴ three²⁵ or four²⁶ strings; an occasional one has a real neck;²⁷ sometimes the top-section is depicted sideways;²⁸ and there is a great variety of sizes.²⁹ In short, everything points at a remarkable multiformity.

All these lute-forms presumably reached Java in the Çailendra period (c. 725 - c. 850) where they existed, mainly, perhaps exclusively, amongst the ruling castes, and also survived in the following so-called Restoration Period (c. 850 - c. 915).

Apart from the numerous representations of lutes on Barabudur

Dufour and Carpeaux (our fig. 84 at 2). — Montandon pp. 56/57 and Wachsmann pp. 393 ff. provide pictures of Uganda harps, Hickmann of many kinds of Ancient Egyptian harps, Stauder of Sumerian harp forms and Lehmann (plate XIX) gives sketches of harps from Ancient Egypt, Central Africa, from the Mandingo, the Fan, from Togo and from the Caucasian Abkhasians. — About harps in general, see Sachs I s.v. "Harfe" (pp. 177 ff.) and Sachs VII pp. 144 ff.

¹⁶ See p. 14 and figs. 65 and 66 at 1.

¹⁷ Kunst II pp. 149-154.

¹⁸ The Chinese lutes (*p'i-p'a*) always have four strings.

¹⁹ Courant p. 177.

²⁰ Bar. O 102, 125, 143, 151, Ia 1 (left side), 52, II 1, 122, 128, IIIB 40, IV 29 and others.

²¹ Very clear: Bar. O 102 and Ia 52.

²² Bar. O 102 and specially II 128.

²³ Bar. O 125, II 1, 128.

²⁴ Bar. O 102.

²⁵ Bar. O 125, II 1, 128.

²⁶ Bar. O 151.

²⁷ Bar. O 102.

²⁸ Bar. IIIB 40.

²⁹ Cf. Bar. O 102 with II 128.

} For reproductions of the reliefs mentioned in these notes the reader may consult Table C, pp. 120 ff.

very few have been found. Two, one from Caṇḍi Sari (fig. 3)³⁰ and one from Prambanan (fig. 35),³¹ are sure to have come from this Central Javanese period. Another, representing the goddess Saraswatī with a three-stringed lute in bronze (fig. 44),³² is also presumed to be from that period.

At first no other representations of Old Javanese lutes were known. This fact seemed to suggest — and this also applies to the harps mentioned previously and to the bar-zithers to be examined later — that these instruments had not survived the Central Javanese period, or at least not for long. However the subsequent finding of a number of terra-cotta statuettes of lute-players at Majapahit by H. MacLaine Pont forced us to take another look at the problem.

Surprisingly, some of those terra-cotta lutes (figs. 65 and 66 at 1) are of the squat type, predominant in North China and Japan (figs. 90 and 89 respectively). The extensive commercial and political contacts between China and East Java in the 14th and 15th centuries³³ prompt me to believe that this squat Majapahit type represents a fresh import.

This conviction is strengthened by the fact that the other lutes of the slender type³⁴ also show a shape rather far removed from the Barabudur instruments. Without any doubt they are less archaic, with their modern-looking scrolls. It seems that these slender Majapahit lutes cannot be attributed, like their 9th and 10th century Central Javanese predecessors, to an Indochinese-Sumatran influence, nor, like their squat contemporaries, to a Chinese cultural influence: the remarkable, western-like scrolls point, presumably, to totally different influences. According to Prof. E. M. von Hornbostel they seem to indicate that these instruments are not direct descendants of the *p'i-p'a* nor of the Indian *vīṇā*, but can be traced back to the Turkish *qopuz*. The *qopuz* seems therefore to have been diffused at the same time in a south-eastern and in a north-western direction, as it is known that the instrument was used in Europe, also in the 14th century.³⁵



³⁰ Caṇḍi Sari, also from the Çailendra period, is some decades older than Barabudur. Prambanan, at least the main temple, dates from the so-called Restoration Period.

³¹ Āiwa temple, 1st basement, balustrade southside No. a.

³² Now in Vienna. After Heine-Geldern I plate 14. See also p. 11 note 11.

³³ See Schrieke English ed. *passim* and specially pp. 24 ff.

³⁴ Fig. 66 at 2.

³⁵ Illustrations of the *qopuz* in Sachs IV p. 210, Kunst IX vol. II p. 447 and Norlind pl. 98 Nos. 11 and 12.

Turning to the question of names, we have mentioned that *vīṇā* often means lute. It indicates a lute when it is specified by the addition of *rāvaṇahasta*,³⁶ *rāvaṇaṣṭa*³⁷ or *rāvaṇa*.³⁸ It may be remembered that the *rāvaṇahasta* (Rāvaṇa's hand) is a lute known from India, the scroll of which is in the shape of a hand.³⁹ Side by side with *vīṇā-rāvaṇ(ah)asta* we find the word *rāvaṇ(ah)asta* also used by itself in the Old Javanese charters.⁴⁰ However none of the Barabaḍur lutes, nor those from Caṇḍi Sari and Caṇḍi Prambanan, nor the Indian lutes in the Ajantā frescoes and the Amarāvati reliefs show such a hand! ^{41 42}

The word *vinipaiṇca*⁴³ probably refers to a lute as well. It is a Javanization of the Sanskrit *vipaiṇci-vīṇā* which, according to SACHS, stands for a *vīṇā* with a resonance-chamber consisting of a peculiarly narrow-waisted 8-shaped gourd.⁴⁴ In the Bhāratayuddha its sound is compared to the crowing of roosters.

Furthermore I believe the word *kacapi* (Sanskrit: *kacchapi*), ap-

³⁶ Wir. 52, 85.

³⁷ R. VIII 167.

³⁸ W. XXXI 1.

³⁹ See fig. 75 in Sachs II p. 112. According to A. A. Bake *rāvaṇahasta* now usually refers to a two-stringed fiddle without any scroll at all.

⁴⁰ O.J.O. XXXVI verso 6 and 22; O.J.O. XLVIII verso 46; O.J.O. CVIII b 4; K.O. I 3, 12; R. XXVI 24. For the name *rāvaṇahasra* which occurs only once, see nt. 42.

⁴¹ Juynboll II 537 gives us the form *vīṇārawa*, translates this as "tone of the lute" (Sanskrit *ārawa* = sound, shouting) and gives as references R. VIII 167 and Wir. 52. However, in the first reference there is mentioned a *vīṇā-rāvaṇaṣṭa* and in the second a *vīṇā-rāvaṇahasta*. If one divides this word-combination the way Juynboll has done, it is not clear how the syllables *n(ah)asta* should be translated.

⁴² According to Goloubew, the author of a work on the Ajantā cave paintings (Goloubew I), the name of the lutes depicted — reminiscent of those on the Barabaḍur — was *ravāja*. However, neither Apte's Sanskrit dictionary nor the Petersburg dictionary contain this word. Neither do these dictionaries contain the word *rāvaṇahasta*. They do have the word *rāvaṇahasra* which also appears in the Old Javanese Agastyaparwa (text edition Gonda p. 371). There seems to be a great variety of names and it is difficult to decide which is the correct one. Apart from those already mentioned, Fétis attributes the names (as Sonnerat did also) *rovana* and *ravanastron* to certain Indian lutes (Sachs II p. 111). See further Grosset pp. 348b ff. *s.v.* *ravanastra* and *ravana* (= *ruana*) and Sachs I p. 313a *s.v.* *rabanastra* and p. 316b *s.v.* *ravanastron*.

⁴³ B.Y. VI 1.

⁴⁴ Sachs II p. 125. — But how is this to be reconciled with a passage in the Nāṭyaśāstra (transl. Ghosh 1961, Ch. XXIX, 120), telling us that the *vipaiṇci-vīṇā* is a nine-stringed instrument? That clearly suggests a harp! Grosset p. 341 mentions this instrument and refers to his ed. of the text (Edition Critique du Traité de Bharata sur le Théâtre, 1898), XXIX 121.

pearing a number of times in literature,⁴⁵ may be considered as the name (a more recent name?) of a lute. It is true that in present-day Java a Sundanese plucked stringed instrument of a totally different shape — a prow-shaped zither — is called *kacapi*. However, it is known that, as with the *vīṇā*, the name *kacapi*⁴⁶ has been applied to a variety of stringed instruments and — with the exception of the Sundanese instrument — in Indonesia mostly to instruments of the lute type.⁴⁷

⁴⁵ Mal. IV 9 (KBwb. II 51 *s.v.* *kacapi*); Mal. LXIX (Poerbatjaraka II p. 303); T. (version *b*) II 43; A.P. XVIII 35; S.K. canto 320; Hrsw. I 74a, II 38b, 143b, IV 54a.

⁴⁶ Malay: *kecapi*; Ngaju-Dayak: *kasapi*; Karo-Batak *kuçapi*, *kulcapi*; Toba-Batak: *hasapi*, *hapétan*; Tagalog: *kuḍyápi*; Bisaya: *kodyápi*; South Celebes (Macassarese): *kacaping*.

⁴⁷ Pictures of old and modern Asiatic lutes, with or without commentary, are to be found as follows:

- | | |
|-------------------------------|--|
| for Java: | Bar. <i>passim</i> ;
Heine-Geldern I p. 22 and plate 14;
Kunst II pp. 154-160, 164, 166, 241 and 243; |
| for Sumatra: | |
| Toba region: | Huyser pp. 239 and 249;
M.G.G. vol. VI plate 53 fig. 2; |
| Karo region: | Huyser pp. 234 and 239 ff.;
M.G.G. vol. VI col. 1187, fig. 3; |
| for Borneo: | Huyser pp. 244 ff.;
M.G.G. vol. VI plate 53 fig. 10; |
| for Celebes: | Kaudern p. 189;
Huyser pp. 235 ff.; |
| for the Lesser Sunda Islands: | Huyser p. 272; |
| for Vietnam: | Knosp II p. 3112 fig. 591 and 592; |
| for Burma: | Sachs III pp. 26 and 27, and plate 13 figs. 35 and 36; |
| for China: | Soulié pp. 47-49;
Courant p. 177 fig. 241;
Sachs I p. 300b;
Sachs VII pl. 41 figs. 278 and 280;
Kümmel pp. 137-139;
Scientific American, May 1914;
Reinhard pp. 136 ff.;
Kunst II p. 242;
Schneerson pp. 36 ff.;
Jan In-Lu figs. 7-9; |
| for Japan: | Ruth-Sommer p. 35 fig. 26;
Sachs VII pl. 32 figs. 222-226;
Piggott pp. 135 ff.;
Malm pp. 134 ff.; |

Of the Old Javanese lute-names discussed, it seems that (*vīṇā*)-*rāwaṇ(ah)asta* is the oldest and certainly has been by far the most usual. The word *rāwaṇahasta* was already in use before 907 A.D.⁴⁸ and therefore dates from the Central Javanese period. Consequently it is unlikely that the *rāwaṇahasta* is not present among the many lutes on Caṇḍi Sari, Caṇḍi Barabudur and Caṇḍi Prambanan. It is remarkable, although understandable, that among all those Central Javanese lutes there is not a single bowed lute. The *rāwaṇahasta*, known in India exclusively as a bowed lute,⁴⁹ must have been, as was theoretically to be expected, a plucked instrument at an earlier period.

However an even more important conclusion can be drawn from evidence I shall now discuss. The Old Javanese lutes as depicted are not merely representations of the instruments mentioned in the Sanskrit texts. They represent types in actual use in Java itself.⁵⁰ Another indication of this is the Javanization of their names, which is noticeable in the shifting of their component parts. The determining part is no longer (as in the Sanskrit examples) before the main component but after it in true Javanese style: *winīpañca* for *vipañcī-vīṇā*; *vīṇā-rāwaṇ(ah)asta*, *vīṇā-rāwaṇa* as against Sanskrit forms as *bharata-vīṇā*, *rudra-vīṇā*. This points to a certain familiarity with the concept and then almost certainly with the instrumental form as well. Furthermore, O.J.O. XXXVI verso 6 and O.J.O. CVIII b 4, as I have said, mention a *rāwaṇa(ha)sta* (*arawanasta*)-player as a court official. Still, even this fact leaves room for doubt, because it is not quite certain that title and function correspond, as for instance with our present-day title of Marshal. However, O.J.O. XXXVI verso 22 gives *paṇḍay arawanasta*, 'lute makers' (living and working in Java itself, of course!) as an unassailable proof that at the beginning of the 10th century the lute was indigenous to Java.

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- | | |
|--|---|
| for Turkestan: | Grünwedel I p. 47 fig. 94 and p. 333 fig. 664;
Stein I pl. II, VI, VII, VIII and XXX; |
| for India: | Griffiths vol. I p. 11 fig. 19 and p. 17 fig. 46;
Foucaux p. 50;
Marcel-Dubois pl. XIV, XXXIX, XLIII
(center); |
| for the whole of India
and Indonesia: | Sachs II pp. 106 ff. |

⁴⁸ O.J.O. CVIII b 4.

⁴⁹ Sachs II pp. 111 and 112.

⁵⁰ For another reason — the naturalness of the players' attitudes depicted — this was also asserted in Kunst II p. 155.

C. Bar-zithers

With very few exceptions, it is only on the Barabudur reliefs that we can study the form and the way of handling bar-zithers in Java — as in the case of lutes. A great many representations of them are found in the stupa-sanctum⁵¹ (figs. 7, 10, 12, 13, 14, 22 and 30). The instrument is still of a rather primitive construction. A more or less flexible wooden shaft, slightly bent forward at the lower end, is fitted with one string. Near the upper end of the shaft, on the side opposite the string, is one half of a gourd (Sanskrit: *alābu*; Old Javanese: *lawu*). For the playing, the gourd is pressed against the chest⁵² (fig. 10), thus forming a closed resonance-chamber and giving more power and body to the otherwise feeble and meagre tone. The identical instrument is still known in Further India (Thailand and Cambodia) as *p'in nam tao* (= gourd-*vīṇā*) and *sadiu* (fig. 91) respectively.⁵³ In the Archipelago the instrument has survived in a slightly modified shape in Celebes (North East Celebes: *talindo*; Central Celebes: *dunde*, *santu(ng)*),⁵⁴ West Toraja: *santung*, Sumba (*jungga*)⁵⁵ and Halmaheira (*sulépé*).⁵⁶

In contrast to the variety of lutes just mentioned, the bar-zithers depicted on the Barabudur all appear to represent the same type, apart from the fact that some of them have a tuning-peg, but the majority seem to be without any. The position of that peg is different from that of the pegs on a European violin or a Hindu-Javanese lute: it lies in the imaginary plane through the string and bar with the knob behind the bar when the instrument is held in playing position, in other words, it is "hinterständig" (at the back). This makes the reproduction of that small part of the instrument very difficult: moreover, in contrast to the lutes, this instrument is often somewhat sketchily depicted on the reliefs.⁵⁷ This being so, it is remarkable that after eleven centuries this tiny peg is still discernible on a few of the instruments depicted (fig. 13).⁵⁸

The only other occurrences of this instrument, apart from those on the Barabudur reliefs, are a bronze statuette in the Regency of Tegal

⁵¹ Bar. O 20, 101, 125, 137, 143, 147, 149, 151, 157, IBb 65, II 1, 25, 116, 124, 126, IIIB 40, IV 70, IVB 42 a.o.

⁵² See f.i. Bar. O 125.

⁵³ About the *sadiu* see also Knosp II pp. 3140b and 3141.

⁵⁴ Kaudern pp. 146 ff.; M.G.G. vol. VI plate 54 fig. 25.

⁵⁵ Kunst VIII p. 10.

⁵⁶ *Ibid.* p. 14.

⁵⁷ See f.i. Bar. IBb 65.

⁵⁸ Bar. O 151 and 157.

(fig. 43),⁵⁹ a beautiful and clear representation on Caṇḍi Sari (fig. 2)⁶⁰ and perhaps one on the Prambanan reliefs.⁶¹

Perhaps the name of this instrument was *kinnara*. In South Indian Mysore and South Kannara, this is still the name for this very bar-zither (generally *kinnarī*).

My assumption that this name was also used in Hindu-Java is, in the first place, based on the fact that the bar-zither players, the one on the Tegal bronze as well as the many on the Barabudur,⁶² are *kinnaras*. Moreover it is known that the Hindus, tempted by the homonymy, have always linked those mythological creatures with the bar-zither. This, however, is not quite justified. On the one hand the name of those heavenly beings is really *kinnara* (not-quite man, what a little man!) and on the other hand the origin of the name of this instrument must presumably be found in the West (Hebrew: *kinnôr*; Ancient Greek: *kinyra*; Old Arabic: *kinnāra* and *kannāra*).⁶³

The Rāmāyaṇa has also handed down *kinnara* as the name of an instrument,⁶⁴ and gives twice,⁶⁵ as if to remove all doubt, the combination: *makinnara malāwu-wiṇā*, i.e. "they played the *kinnara* and the gourd-*wiṇā*."⁶⁶ *Lāwu-wiṇā* by itself also appears several times.⁶⁷ Yet another name for this instrument is *caṇṭung*,⁶⁸ which has survived to the present day in another part of the Archipelago, namely Celebes.⁶⁹

⁵⁹ On the bank of the Pagerayu, *désa* Djatimerta, district Balapulung. At present in the Djak. Mus. (Museum No. 767b).

⁶⁰ This one has no peg. — The broadened lower part of the bar has the shape of a lotus bud. Also, among others, the instrument on Bar. O 125 (our fig. 10).

⁶¹ Ćiwa temple, 1st basement, balustrade eastside No. *h*, at the top left.

⁶² Quite clear: Bar. O 101 (our fig. 7), 147 and 149 to the left (our fig. 12), IV 70 left-hand top.

⁶³ Sachs II p. 90.

⁶⁴ R. III 39, VIII 152, XVI 10, XVII 111, XXVI 23. The Balinese interlinear translation always gives *rebab* for *kinnara*. — See KBwb. II 18 *s.v.* *kinnara*, where a different numbering of songs and strophes for the Rāmāyaṇa is given.

⁶⁵ *Mabangsi, mangidung, makinnara, malāwu-wiṇā* (R. III 39, XVI 10).

⁶⁶ According to N. A. Jairazbhoy the instrument is called *kinnarī* in the Saṅgītarāṇa (17th century) V, 17-19 and likewise in the Saṅgītaratnākara VI, 255-264. It has three gourds, the middle one sideways. In Hyderabad the *kinnarī* even nowadays has three gourds. The Indian *kinnarī-wiṇā*, (now usually with seven strings) derived by Sachs (II pp. 123/124) from the *sītār*, cannot be considered here as it is a rather late form.

⁶⁷ Wir. 30; T. V 102; Sw. 10b; Kor. 128. In Wir. 30 the *lāwu-wiṇā* is said to produce one of the seven notes of music called the *gāndhāra* note. See Fokker pp. 30, 70, 104 (note 133).

⁶⁸ Ww. I 45, IV 50; A.P. IX 9; R.L. I 1, where we find *cacantungan*; Dpt. 1; Mal. (version *c*) 13.

⁶⁹ In the form *santung*; cf. Kaudern p. 150.

In other countries the *kinnara* has reached a very advanced stage of development. The most beautiful Hindu instruments, the present North Indian *bīn* (fig. 93) and the South Indian *viṇā* (fig. 94) are in fact such perfected bar-zithers.

Originally we thought that these highly developed forms had not found their way to Java. In any case, they were not represented on the reliefs known at the time of the first edition of this book. However, in 1935 (see O.V. 1936 p. 9), W. F. Stutterheim and A. Gall found a relief depicting a North Indian *bīn* (fig. 64) on the slopes of the Penanggungan, Majapahit's holy mountain. And possibly we even know the Old Javanese name of this instrument. I refer to three rather late poems in which an instrument by the name of *ma(n)deli* is mentioned: the *Malat*,⁷⁰ the *Tantri Kāmandaka*,⁷¹ and the *Smarawédana*.⁷² In the first edition of this book the *ma(n)deli* was listed among the unidentified instruments. However, the Indian musicologist K. V. Ramachandran, who read my essay although it was written in Dutch, has since told me that he had encountered the word *mandali* in Sanskrit texts many times, denoting apparently some kind of *viṇā*.⁷³ Therefore, as long as no arguments to the contrary are found, I am inclined to think of *ma(n)deli* as the name of the North Indian form of the bar-zither used in East Java in the 13th century.



Yet another form of instrument that has most likely developed out of the bar-zither must be mentioned here. It is found on one of the reliefs of Caṇḍi Jago of c. 1260.⁷⁴

At first sight one might feel justified in seeing a close kinship with the long necked lute known from Near Eastern⁷⁵ and Egyptian⁷⁶

⁷⁰ *Mal.* (version *a*).

⁷¹ *T.K.* 17.

⁷² *Smarw.* 14, 15.

⁷³ In modern India a multi-stringed board-zither resembling the Arabian *qānūn* is called *svaramaṇḍala* or *surmaṇḍal*. Cf. Grosset p. 352 and Sachs I p. 203a.

N. A. Jairazbhoy gives the following information: the *Saṅgītarpana* V, 15 describes the *svaramaṇḍala*, also called *mattakokilā* and the commentary of *śloka* 110 of the sixth chapter of the *Saṅgītaratnākara* says: "In this world the *mattakokilā* is called *svaramaṇḍala*".

⁷⁴ Fig. 51.

⁷⁵ Cf. Sachs V p. 91; *id.* VII pp. 163 and 164.

⁷⁶ Sachs VI plate I (15th century B.C.).

antiquity, usually called *pandura* (later form: *tambura*) which subsequently found its way to India as *tumburu-vīṇā* or *tamburi* (nowadays usually called *tānpūrā*) (fig. 92); see the illustrations in GROSSET⁷⁷ and in SACHS VII.⁷⁸ A closer inspection, however, reveals a peculiarity which the latter does not show: near the end of the neck where the tuning-pegs might be expected a semi-spherical object looking like a half gourd or coconut shell is fastened on the side by means of a clearly visible link as is the case with the Old Javanese bar-zithers, and with the present instruments of this type found in Further India (Thailand, Cambodia),⁷⁹ Celebes and adjacent islands⁸⁰ and some of the Lesser Sunda Islands (Sumba).⁸¹

But whereas, at the time of playing, the gourds of all those instruments are pressed against the musician's chest, making his whole body an extension of the resonator, the gourd of the instrument on the Jago relief is approximately in the position of the uppermost of the two whole gourds of the North Indian *bīn*, and of the single gourd of the South Indian *vīṇā*. Therefore the instrument seems to be an intermediate form between *pandura* (*tumburu-vīṇā*, *tamburi*, *tānpūrā*) and *vīṇā*, in the manner of the South Indian *vīṇā* (fig. 94), a development of a two-gourd form (as the North Indian *bīn*) (fig. 93), in which the original lower gourd has been replaced by a resonance-chamber reminiscent of the lute-family.

Nevertheless it must be pointed out that, although there is no doubt that the half gourd-shaped object is part of the long necked lute, the same relief shows another object of the same shape, a little to the left (fig. 50), but it is not clear whether this is attached to an instrument. It is probable, however, as the person next to it is flanked on the left by a person blowing an instrument and on the right by one playing the gourdied stringed instrument just mentioned. Therefore it seems safe to assume that the person in question is also a member of the orchestra.

D. Celempung

One of the reliefs of Caṇḍi Jago (fig. 51) shows that an instrument, closely akin to the modern *celempung*, was in vogue late in the Hindu-Javanese period. It is true that the instrument shown is not identical

⁷⁷ Grosset p. 346 fig. 243.

⁷⁸ Sachs VII p. 252.

⁷⁹ Kunst IV p. 81 fig. 2; Bernatzik.

⁸⁰ Kaudern pp. 146 ff.

⁸¹ *id.* p. 53 fig. 84.

with the present-day *celempung* in all its details (fig. 96).⁸² It lacks the narrowing shape towards the player and probably the resonance-chamber as well — the relief not being quite clear. However, neither of these characteristics is essential. A drawing in CRAWFURD'S⁸³ book seems to suggest that in his time (1820) there were still *celempungs* without resonance-chambers in Java (fig. 95). In addition, the method of putting tension on the strings seems to have evolved during the past century under European influence. The drawing shows the strings disappearing into the instrument at the top, and kept at the proper tension by pegs set into the side, as exemplified by the present-day Sundanese *kacapi*. On the modern *celempung*, however, the string tension is brought about by means of tuning-pegs located on the upper side of the resonance-chamber or on a wrest-board and manipulated by a tuning-key. These pegs, the wrest-board and the tuning-key are of Western make or at least of Western design.

Because we are dealing with a type of instrument which apparently had not yet reached its final form even in 1820, the fact that the instrument on the relief is not identical in all details with what we see now should not prevent us from classifying it as a *celempung*.



In fact little is known about the history of the four stringed instruments (*rebab*, *celempung*, *kacapi*, *tarawangsa*) of modern Java. With the exception perhaps of the *celempung*, which we discussed above, they seem to be rather young. Codex 2283 of the Leyden University Library contains a part of a version of the Malay "Hikayat Cèkèlwanèngpati", the story of the hero Radèn Pañji. This undoubtedly reached its final form in Hindu-Javanese surroundings but it mentions the *rebab* and the *celempung*.⁸⁴ Possibly this is an interpolation of later date.⁸⁵ The mere fact that three Balinese writings: Cupak, Kidung Adiparwa and Malat (version c) all mention the *tarawangsa*⁸⁶ as *trewasa*⁸⁷ or

⁸² R. Trop. Inst., Amsterdam, No. 474/1.

⁸³ Crawford vol. I opposite p. 326. The same drawing in T. S. Raffles, The History of Java, London 1817, Vol. I opp. p. 470.

⁸⁴ In a summary of the contents of this manuscript, given by Rassers in his thesis, *rebab* and *celempung* are mentioned as well as *saron* and *gambang* (Rassers pp. 56 and 73). The word *rebab* is of Persian-Arabic origin; the onomatopoeic name *celempung* is purely Indonesian.

⁸⁵ Cf., however, hereafter p. 86 where the *samêpa* is discussed.

⁸⁶ Kunst IX vol. I p. 372.

⁸⁷ C.; Kid. Adip. (KBwb. II 607 s.v. *trawangsa*).

trawasa,⁸⁸ and that the Balinese Bagus Turunan mentions the *trawangsah* as well as the *rebab* ⁸⁹ does not prove a great age for these instruments, since none of these writings themselves are very old.

E. Guntang

An instrument of this name is mentioned in the Rangga Lawé,⁹⁰ the Kidung Sunda,⁹¹ the Malat ⁹² and the Kidung Harṣawijaya.⁹³ The same name is still in vogue in Bali where it refers to a one-stringed bamboo idiochord which is part of the *gamelan gambuh* and *gamelan arja*. A picture and discussion of this are to be found in KUNST II pp. 231, 232 and 117 ff.

⁸⁸ Mal. (version c) 13 (KBwb. II 607 *s.v.* *trawangsa*).

⁸⁹ B.T. 164 (KBwb. II 259 *s.v.* *kalilit*). The *rebab* is also mentioned in the Panji K.S. and in the Panji K.N. XLII, LXI (*cf.* Poerbatjaraka II pp. 8, 239, 248).

⁹⁰ R.L. VII 132, XII 15.

⁹¹ K.S. III 40.

⁹² Mal. canto 2 and CII (Poerbatjaraka II p. 331). Poerbatjaraka suggests, in my opinion wrongly, that *anggunṭang* could be translated by "singing".

⁹³ Hrsw. VI 91a.

III

AEROPHONES

A. Flutes

In the 489th Book of Chronicles of the second Sung Dynasty (906-1279) GROENEVELDT found a description of what Chinese travellers saw in Java about 1150. It is a sober but nevertheless colourful account of Hindu-Javanese society, of the form of government, of agriculture and trade, of fashions, royal activities (the King at the time was Jayabhaya) and the way of life of the people. Music is also mentioned briefly. According to GROENEVELDT's translation,¹ the Chinese author says that people made music on transverse flutes, drums and wooden slabs.² So it would appear that transverse flutes were in use in East Java in the 12th century. But were they? Today they certainly can be found in other parts of the Archipelago, but no longer in Java proper, apart from the *prajurit* instruments in the *kratons* which are copies of the 18th-century European military flutes, and some specimens made of bamboo in the Sunda districts (in the former residencies of Banten and Batavia). The question therefore is: was the account in the Sung annals translated correctly? Generally speaking, there is reason for doubt in view of the nonchalance with which non-musicologists usually treat musical instruments in their records.³ They call all wooden or bamboo wind instruments flutes, with the exception of those with a prominent bell: then they are called trumpets. Similarly they classify as percussion instruments, without discrimination, all instruments which are struck: gongs, cymbals, xylophones, metallophones and drums.

There was, however, a special reason for doubt in this case. The word GROENEVELDT read in the Sung chronicles was presumably *ti*,

¹ Groeneveldt p. 17.

² At that time many bronze instruments were used in the *kraton*, and also one or more stringed instruments. This is substantiated by contemporary and slightly earlier written sources. See our Table A on pp. 90 ff.

³ Even Van Stein Callenfels in his Sudamala-edition, p. 115: "the absence of cymbals (*sarons* and the like)". *Saron* is, however, the name of an instrument with bronze keys, and not of a cymbal.

and in China this usually (but by no means exclusively) refers to the transverse flute. In some periods the end-blown flute, too, was called *ti*, although its usual name was *siao* (*h'siao*).⁴

On the other hand, the Barabudur shows many images of people playing transverse flutes⁵ (figs. 7, 15, 16, 17, 20 and 30), and only very few end-blown instruments⁶ (figs. 9 and 32), which moreover may well be shawms, not flutes. But this in itself does not prove that in Java the transverse flute was ever a popular instrument.

Fortunately it so happened that the former official for Chinese Affairs in Batavia (now Djakarta), J. Th. Moll, had an edition of the original text of the Chronicles mentioned. At my request he made a check and it appeared that the author had, indeed, used the ambiguous word *ti*, but being aware, apparently, of its double meaning, had added the adjective *wang*, and that word can only mean 'side' in this context. So now we know with certainty that at the time of Jayabhaya the transverse flute must have been the popular wind instrument in East Java.

Probably one should see in the word *wangsi*⁷ or *bangsi*⁸ (Sanskrit: *vaṃśa* = reed, bamboo, flute; *vaṃśī* = flute) the Old Javanese name for this transverse flute. In the Charters it sometimes appears together with the word *suling*.⁹ So one may assume that *bangsi* (*wangsi*) and *suling* refer to two different kinds of bamboo flutes. And whereas in present-day Java and Bali the word *suling* is used exclusively for the end-blown flute, it seems admissible to regard *bangsi* (*wangsi*) as the name for the side-blown flute. Besides, this tallies with the Indian "mother-word" which, according to the Saṅgītaratnākara¹⁰ was applied to transverse flutes exclusively.

In the Archipelago, *bangsi* or *bangsing* were later used for other wind instruments as well: for bamboo end-blown flutes, and even for clarinet-like instruments made of other materials.¹¹

⁴ See, for instance, Courant p. 152b.

⁵ Bar. O 101, Ia 1 (left-side), 52, Ib 19, IBa 46, 300, 318, IBb 43b, II 10, IIB 44, III 65, IIIB 40, IVB 42 a.o.

⁶ Bar. O 24, 117, IV 7.

⁷ R. XXVI 13.

⁸ Bebetin A I, IIB 5; Truñan A I, IIa 1; Truñan B, Ib 5; R. III 39, VIII 28, 152, XVI 10, XVII 111; Wir. 85.

⁹ Truñan A I, IIa 1; Truñan B, Ib 5; Batur P. Abang A VIB 2; Batuan IIB 3, IVb 3; Pandak-bandung, E.B. pp. 14 ff. pl. IIIB 5 and Vb 1; Buwahan A III 7; Br. I pp. 607 ff. pl. 5b; *ibid.* pp. 619 ff. pl. 5b; Br. II pp. 49 ff. pl. 9b; R. XXVI 24; Smar. IV 18; B.K. IV 14; Wir. 52; S.T. I 7, V 58; B.T. 164.

¹⁰ VI 424-451 (cf. Grosset p. 353 col. 1).

¹¹ Sachs II pp. 143, 144, 160 and 161.

Synonymous with *bangsi* (of which the Sanskrit original with its meaning of reed, bamboo and flute is given above) is *wénu*¹² which is found in the same form and meaning in the Vedic scriptures.¹³

There is yet another word for flute: *tuḍung(an)*.¹⁴ The kind of flute to which it refers cannot be established. From the way the Bhāratayuddha and the Wṛtta-saṅcaya refer to this instrument we can conclude — although not with certainty — that this is a kind of flute, or at any rate a soft-sounding wind instrument, as in both poems its sound is compared to that of the wind in the bamboo leaves.¹⁵

It should also be mentioned that in 1935 A. Gall excavated a terra-cotta ocarina on the slopes of the Penanggungan, the Majapahit holy mountain. This ocarina is presumed to date back to the Hindu period. It has three finger holes (fig. 81) and its name is unknown.

Another instrument belonging to this group is sounded not by the human breath but by the wind. It consists of a piece of bamboo with holes of various shapes cut in its internodes, and usually placed high up in a tree. The wind striking these holes produces pleasing sounds at different pitches which can be heard from a considerable distance. In other words, it is an Aeolian flute. In the *wayang* stories the sound of these flutes is usually compared to the weeping of princesses. It is called *sendarèn* in modern Javanese, *sondari* in Sundanese. In Old Javanese literature *sundari* is repeatedly mentioned as an element of the scenery in a wood.¹⁶ According to the Balinese versions it is a bird, and POERBATJARAKA takes it to be an insect,¹⁷ but it seems quite possible that in Old Javanese it was already used for an Aeolian flute.¹⁸

¹² S.S. 6.

¹³ Sachs II pp. 146 and 147.

¹⁴ B.Y. L 5; W.S. 93; Mal. (version c) 38.

¹⁵ See hereafter pp. 66 and 67 and notes 183 and 184. — In B.Y. and Mal. Van der Tuuk (KBwb. II 650 s.v. *tuḍung*) proposes to read *tuwung* for *tuḍung* and for the reference in W.S. *tuwongan* for *tuḍungan*. However he must have written this in a careless moment. Neither could the sound of the *tuwung* (which, if I am right, is a set of bronze goblet-shaped cymbals — see p. 50) have inspired the poetic comparison mentioned above, nor could it be assumed that the Old Javanese poets themselves, or the later copyists were in the habit of writing *tuḍung* when they meant *tuwung*.

¹⁶ W. I 15; and (according to KBwb. III 28 s.v. *sundari*): Sut. XLIII 9d, LV 1d, CXXXVIII 7d; L. XXV 1; Smar. XXI 6, XXIII 8; A.N. XXIII 3; Sum. IX 1; S.T. I 14.

¹⁷ Poerbatjaraka on p. 251 of his Arjunawiwāha-translation (p. 71 of the separate edition): = Mod. Javanese *kiñjeng-tangis* (a kind of dragon-fly).

¹⁸ L. C. Heyting reminded me of the existence of two Balinese tracts dealing with the *wariga* (Balinese astrological calendar), called *Sundari terus* and *Sundari bungkah* (cf. H. H. Juynboll in "De letterkunde van Bali" in

B. Glottophones

In this group the mouth organ deserves our attention in the first place. Several of these instruments are shown in two reliefs on the buried basement of the Barabudur¹⁹ in which the mouth organ appears to be one of the instruments played by a group of musicians (fig. 5 at 1). As far as I am aware its Old Javanese name is not known.

In Java the instrument is now extinct but in Borneo it is still one of the more popular instruments of the Dayak tribes in the centre of the island (fig. 99). It is believed to have originated in South China. The oldest known representations come from North Vietnam. They appear on a bronze kettle-drum the date of which was given as the middle of the first century A.D. by GOLOUBEV II, (fig. 98).²⁰ Perhaps these instruments originated in the Đông-so'n-culture that reached China by the middle of the first millennium B.C. and spread from there to the Archipelago some centuries later. One may assume that the Kayan and Kenya tribes, when they settled in Central Borneo, brought with them these *k(e)ledi* (in Borneo also called: *kediré*, *keluri*, (*eng*)*kerurai*, *garudè*, *gerdi*, etc.).

This instrument, which has a surprisingly beautiful organlike tone, consists of a number of bamboo tubes of various lengths (six in Borneo generally, but sometimes eight in Sarawak) with one hole each and sealed in a specially grown tapered gourd. Each of these tubes has a vibrating tongue made of palm wood (therefore, heteroglottal) which can sound only when the player, blowing the narrow end of the gourd, closes the hole in the tube he wants to hear. The lowest note is sounded continuously in the manner of the drone of the bagpipe or of the Indian instrumental music. With the other five (or seven) notes the player produces necessarily simple melodies.

For comparison some pictures of South-East Asian mouth organs

B.K.I. LXXI pp. 566 ff.). *Terus* here means: pierced, penetrating (Juyn-boll II p. 249a); *bungkah* means: bottom-end, but *bubungkahan* is a kind of reed (*ibid.* p. 407a). This seems to refer to a bamboo rather than to a bird or an insect. An Aeolian flute is a requisite in the description of lovely forest scenery in Sanskrit literature (information supplied by A. A. Bake). F. van Lamsweerde found in N.W. India a small type of shawm called *sundari*. In the Balinese Wiratantra and Layon Sari two references are found, in which *sundari* obviously has the meaning of Aeolian flute; see KBwb. I 359 s.v. *añih*: *kadi sundari* (*k*)*anginan*, and KBwb. I 278 s.v. *alih*: *lwir sundari* *kaanginan*; both comparisons having the meaning of "like a *sundari* exposed to the wind".

¹⁹ O 39 and 53.

²⁰ Goloubew II p. 20 fig. 15.

have been included. One is a Chinese *sheng* (fig. 102) and the other two are from North Assam (fig. 100) and Laos (fig. 101), respectively.²¹

No mouth organs have been excavated in Java. This is not surprising as the materials of which they were made were too perishable.



The same applies to the other glottophones which remain to be dealt with. Their materials were also too perishable. The clarinets (*c.q.* "pannier"-oboes; see p. 29 end of paragraph) which are still widespread in Java and the adjacent islands were and are made of rice stalk, and the shawms of wood.

We probably know four or five representations of the shawm. One or two from the Barabudur (figs. 9 and 32),²² one from the Prambanan (Çiwa temple) (fig. 40) and two from East Java on a Panataran relief (fig. 55) and from Caṇḍi Jago (fig. 50).²³

We cannot be quite sure that the instruments shown are shawms. They could be flutes. Nevertheless for the Panataran instruments at least, the balance is in favour of the shawm on account of its characteristically small bell. Indonesian flutes, usually made of bamboo, have no bell at all.²⁴ The clue is provided by the whole scene. It represents a detail of the fight between Hanuman, the white monkey general (to be imagined high up in a tree above the heads of the group of fleeing demons) and Indrajit, Rāwaṇa's son. A sweet-voiced flute would be the very last thing to be expected as an instrument of war. The shawm with its wild exciting character is much more suitable.²⁵ Besides, we

²¹ For other pictures see Sachs II p. 164; Oedaya II No. 6 (issue of Nov. 1924); Tropische Natuur XVI p. 171 fig. 3; Kunst II p. 244 fig. 49; M.G.G. vol. VI col. 1191 fig. 5. — Various forms from the Asian mainland can be found a.o. in Sachs I p. 369b; Sachs II p. 164; Soulié p. 55; Knosp II pp. 3122 and 3145; Courant p. 162; Ruth-Sommer p. 121; Stein I pl. V, VI, VII and VIII; Grünwedel I p. 333 fig. 664, *et.c.*

²² Bar. O 117 and IV 7.

²³ O.D. and Br. III photo No. 28.

²⁴ Buginese flutes are sometimes an exception when they show a bell made of buffalo horn. This is, however, quite a different shape from the slightly curved "bell" of the Panataran instrument.

²⁵ Anyone who has ever attended a *kuda ké pang* (Sund.: *kuda lumping*) performance knows how exciting a shawm can be. Cf. Staugaard pp. 421 ff. and Kunst I pp. 30 and 31.

know from the Usana Bali that the shawm (*gem(p)rèt*) was popular as a war instrument in the Hindu-Javanese period.²⁶

There is, however, a slight possibility that a trumpet-like instrument resembling the equally narrow Chinese *la-pa* was meant,²⁷ but the *la-pa* is usually much longer.²⁸

The Old Javanese names of shawms which have come down to us are still used in Java today: *prèrèt* (*parèrèt*, *pèrèrèt*),²⁹ *p(è)lèrèt*,³⁰ and *gem(p)rèt*.³¹ In the Hikayat Pañji Kuda Semirang the shawm is mentioned under its Malay name *serunai* (from Persian *surnāy*).³²

Finally we come to the rice-stalk aerophones (Old Javanese: *damyadamyan*,³³ modern Javanese: *de(r)mèn(an)*,³⁴ Sundanese: *dami* or *jarami*, *empèt-empètan* or *olè-olèan*).³⁵

Such a rice-stalk instrument is often a small clarinet. It then consists of a rice-stalk segment closed at the top by a node. The other end is open. Immediately under the closed end a vibrating tongue has been cut into the wall with the fixed end nearest to the node. The player puts the instrument into his mouth so far that the tongue can vibrate freely inside the cavity of the mouth. Sometimes it has two or three finger holes and sometimes a funnel-shaped bell made of coconut palm leaf wound around.

The rice-stalk may be turned into a musical instrument in another way. Just below the closed top end a number of lengthwise cuts are made. The ends of the stalk are cautiously pushed inwards a little, so that the cut sections bulge slightly outward. This bulge is placed right inside the mouth; the instrument is then capable of producing a remarkably powerful shawm-like sound. In fact it is a kind of multiple oboe as the sound is created by the intermittent opening and closing of the slits of the bulging part (fig. 103).³⁶

²⁶ U.B. 25, 29 (see KBwb. IV 793 *s.v.* *gemrèt*).

²⁷ Also called *h'siao thong kyo*. See the picture in Courant p. 158 fig. 197.

²⁸ See Sachs I p. 238a; Soulié p. 61 and N.G.M. Vol. XLIX (1926) pp. 215 and 216.

²⁹ T.K. 17; Smarw. 14, 15; Mal.; C.A. IX, XII, XIII; H. XXIV 5; Nawar. 63. For modern Java see Kunst IX vol. I p. 238.

³⁰ S.T. (see KBwb. IV 235 *s.v.* *plèrèt*); Hrs. V 75a; R.L. VII 79, XI 113. See note 26.

³¹ Poerbatjaraka II p. 8.

³² Gh. XXXVI 7; in the Malat: *dadamèn* (KBwb. II 514 *s.v.* *dami*).

³³ Brandts Buys III p. 318b; Kunst IX vol. I pp. 241 ff.

³⁴ Kunst IX vol. I p. 376.

³⁵ For clarity's sake the apertures between the cut strips have been exaggerated in the drawing. In reality they are hardly visible.

C. Trumpets

The shell-trumpet has been an important Hindu-Javanese instrument in temple services as well as in the business of war. It has come down to us in Old Javanese literature under three names: *çangka*,³⁷ *mara-çangka*³⁸ and *sungu*.³⁹ Of these names *sangka* and *sungu* are still in use in Bali⁴⁰ to-day.

The instrument is also found in several other places in the Archipelago, mainly amongst fishermen (*e.g.* in Madura and Kangean). The sound of the shell-trumpet carries far across the water, making it singularly suitable for signalling. However it is no longer made, as in Hindu-Java and India, from the species of shell called *Turbinella rapa*. It is now made from *Tritonium variegatum* (*Charonia tritonis*),⁴¹ and the hole for blowing is no longer (as it was) at the apex but somewhere along the side.

Very few Old Javanese representations of it have come down to us. Some occur on the Barabudur, *e.g.* on reliefs Ib 70 (fig. 18) and IV 7, others are found on the Prambanan (Brahma temple, fig. 42), on the Panataran (in one of the rear hands of the image of the goddess Çrī found in the precincts),⁴² on one of the reliefs of Caṇḍi Jawi (fig. 53 extreme left), and on a Caṇḍi Sukuh relief of the closing years of the Hindu period (fig. 68).



³⁷ Either by itself or in composita (see page 31): Sukawana A I, IIa 2; Sembiran A I, IIb 4; Babi A VIa 2-6; Wir. 70, 77, 78, 80, 85, 96; Ud. 90, 111; B.P. 10, 35, 40, 72, 83, 130; B.Y. IX 10, X 3, 16, XIV 16, XV 26, XVI 17, XIX 20, XXVI 1, XXXVI 3, XXXIX 2, LII 8; R. XIX 12, 15, 19, XXII 3, XXIII 72; Catur. 5; Sip. V 5; Sum. XXI 5, LII 6 (?); Nag. LIX 7, LXV 1, LXXXIV 2; Smarw. 14, 15; U.B.; Bs.; C.A. IX; Buwahan A III 7; Pandak-bandung, E.B. pp. 14 ff. pl. Vb 1; T.K. 12, 16, 17; Nawar. 63, 64; Swarg. 40; S.T. III 32; J.D. 71; Kor. 20; T. (version b) I 79, 81; Hrs. II 41b, V 61a, 75a; B.K. XXXIX 12; Brh. 46; Smar. VI 15, XXIX 8, XXXII 4, XXXIII 3; H.W. XXXVI 7; W. XX 6, XXIX 5.

³⁸ Wir. 64, 69. The latter gives a proper name as well: *Devadatta*. It is Arjuna's instrument on which he blows so vigorously that the foliage of the trees stands on end — a kind of oriental parallel to Roland and his "Elephant". It is not unusual that *çangkas* are given a proper name, *e.g.* in the Mausalaparwa (J.D. 71), a magic *çangka* which sounds without being blown is called Lord *Pāñcajanā*.

³⁹ T.K. 17; B.Y. X 5.

⁴⁰ Kunst II p. 233 fig. 36.

⁴¹ Cf. further Sachs II pp. 167, 168; Kleen pl. 58; Kunst II pp. 124 and 125.

⁴² Cf. Krom I 2nd ed. p. 281.

According to SACHS II, pp. 169 ff. in India three types of metal trumpets were known. For the straight trumpet and for the single-looped trumpet SACHS gives the Sanskrit names *karaṇā* and *tūrya* respectively. For the curved trumpets, besides the Sanskrit name *raṇacṛīṅga*, a variety of names in South Indian languages is given, most of which remind us of a Sanskrit word *kāhala* or *kāhalā*, which in Monier Williams' Sanskrit dictionary is said to have two different meanings: a. cow's horn or an instrument of that shape; b. a great drum.

In Old Javanese literature the name *karaṇā* does not occur, and the name *tūrya*⁴³ is only found in one text. Instruments indicated by names which all seem to be related to the Sanskrit word *kāhala* (or *kāhalā*) are frequently mentioned: *kāhala*,⁴⁴ *kahala*,⁴⁴ *kālā*,⁴⁵ *kala* — when linked with or in combination with *ṣangka*⁴⁶ —, *kālā*,⁴⁷ *kālaha*,⁴⁸ *kalaha*⁴⁸ and *kalā*.^{49 50} Often *kāhala*, or one of its variants, and *ṣangka* are linked together either as *kāhalaṣangka*,⁵¹ or *kalaṣangka*,⁵² *ṣangkakāhala*,⁵³ *ṣangkakahala*,⁵⁴ *ṣangkakalaha*⁵⁵ and *ṣangkakālaha*,⁵⁵ *ṣangkakālā*,⁵⁶ *ṣangkakālā*⁵⁶ and *ṣangkakālā*.^{56 57}

⁴³ Although I think that the original meaning may have been "trumpet", from Old Javanese literature we only know the combination *tūryavādītra* (J.D. 76/77) which seems to have the meaning of musical instruments in general. Similarly in the Sinhalese Mahavaṃsa (Geiger p. 63), all kinds of music together are called *turiyavādita*, and a combination of five different musical instruments (*saṅkha*, *tāla*, and presumably *viṇā*, *veṇu* and drum) is called *pañcaṅga-turiya* or *pañca-turiyanga*. — The text from the Lalitavistara represented on relief Ia 1 of the Barabudur mentions the euphonious sound of 84,000 *tūryas*, but there are no trumpets depicted, merely two kinds of drums, large cymbals, a small lute, an arched harp and a transverse flute (fig. 15 only gives the left side). See Krom III pp. 101 and 102.

⁴⁴ R. XII 65; B.K. LXXXV 12; Wir. 70; Nag. LXV 1; Ud. 111; Sut. CXX 6d, CXXI 1b, CXXIII 5c.

⁴⁵ Brh. 46; T.K. 17.

⁴⁶ Nag. LIX 7; Sip. V 5; W. XX 6, XXIII 2, XXIX 5; B.Y. XXXIX 2; R. XXII 3, XXII 4, XXIII 72; Smar. XXXII 4; Sut. CXXVII 1b, CXXX 3a, 11b.

⁴⁷ Nawar. 63, 64.

⁴⁸ Wir. 85, 96; B.K. XXXIX 12; T. I 79, 81 (version b); A.W. XLVI 5, XLIX 7.

⁴⁹ Sip. V 5.

⁵⁰ See, however, also pp. 41 ff.

⁵¹ Nag. LXV 1.

⁵² Nag. LIX 7; B.Y. XXVI 1, XXXIX 2; R. XXII 3, XXIII 72; W. XX 6, XXIX 5; Smar. XXXII 4.

⁵³ Ud. 111.

⁵⁴ Wir. 70.

⁵⁵ Wir. 85, 96; B.K. XXXIX 12; T. I 79, 81 (version b).

⁵⁶ T.K. 16, 17; Brh. 46.

⁵⁷ See pp. 41 ff., where the confusion in nomenclature is pointed out.

However the texts give no indication as to the form of these trumpets.

Representations are scarce. Only some straight trumpets seem to occur on the Barabuḍur.⁵⁸ There may be a representation of a curved trumpet as well, but the relief is damaged and therefore somewhat indistinct. This could also be a horn, an instrument which is mentioned in Old Javanese literature — be it only once — under its Sanskrit name *śṛṅga*.⁵⁹

In addition there are the remarkable instruments with two tubes on the Caṇḍi Jawi reliefs (fig. 53). In appearance they are identical with the straight trumpets still used in Nepal (fig. 97) [and perhaps also in India], called *kāhā*. On the Indian subcontinent they have always been used exclusively in the religious sphere; they are typically ritual instruments, and appear with one or with two tubes (fig. 104).⁶⁰

Although at first, before we learned of the existence of these double-trumpets in India, J. S. Brandts Buys and I were somewhat unsure whether these Caṇḍi Jawi instruments were trumpets or shawms, I now feel that we may safely assume them to be identical with the Indian double-*kāhās*.

SACHS VIII pp. 153/4 gives their present Tamil name: *tiruchinnam*.

Furthermore the texts give some other words, which might possibly have the meaning of trumpets. First there is the word *tarayan* which occurs in the Nāgarakṛtāgama and in the Sumanasāntaka.⁶¹ For the word in the latter reference JUYNBOLL II gives the translation: "sound imitating word for the trumpet"; indeed a striking instance of onomatopoeia. I am, however, rather inclined to think that *tarayan* stands for the trumpet itself, whatever the form of this trumpet may have been.

Another word occurring only once in the Nāgarakṛtāgama is *trut*,⁶² which JUYNBOLL II translates with "trumpet".

A third word deserves our attention, namely *busya*.⁶³ In the first of the two references known to me it appears linked with *çangka*, the shell-trumpet (*aşangka-busya*). The consideration which led to the assumption that *kāhala* was a wind instrument because it was linked

⁵⁸ Bar. IV 7.

⁵⁹ T. II 11.

⁶⁰ After Buschan vol. II p. 96 fig. 118.

⁶¹ Nag. LXXXIV 2; Sum. LII 6.

⁶² Nag. LXXXIV 2.

⁶³ Pandak-bandung, (E.B. pp. 14 ff.) Vb 1 and Br. I pp. 619 ff. 5b. In Nepal A. A. Bake found two kinds of cymbals one large about ten inches in diameter called *bhusiah*, and one small, not more than three inches in diameter and very much like the Indian *kartal*, called *chusiah*.

with *sangka* (strengthened, however, in that case, by the Indian meaning of *kāhā* and *kāhālā*), could also perhaps apply to *busya*.

The fact, however, that in the second reference the word *busya* appears in the enumeration of actions prohibited in the cloister precincts makes it difficult to be positive about the meaning of wind instrument. Such a list of actions usually starts with the mention of various ways of music-making (*anuling*, *amukul*, *ageṇḍing*, etc.). This is usually followed by a group of kinds of *wayang* and stage performances (*mèn-mèn*, *aringgit*, *abañwal*, etc.), and in the reference in question we find *busya* in this *wayang*-group.

There is one more word which has to be discussed in this section, viz. *pirus*, which on account of JUYNBOLL's translation (in his Wordlist) of the word *pipirusa* as "whistling?" possibly could be supposed to belong to the category of aerophones.

For this word VAN DER TUUK gives one reference from Old Javanese literature⁶⁴ (KBwb. IV 96 s.v. *pirus*) and two references from charters found in Bali (KBwb. IV 265 s.v. *pipirusa*), which were published previously by BRANDES.⁶⁵ It seems to me from the context that *pirus* has no instrumental meaning, because again it belongs to the "wayang-group" of forbidden actions and not to the "music-group". The idea that *pirus* denotes some kind of stage act is supported by the fact that VAN DER TUUK s.v. *pipirusa*, which he considers to be related to *pirus* and which occurs in the Rāmāyaṇa,⁶⁶ gives *ñemarin*, i.e. "taking the part of Semar", as a Balinese translation of the word.

This opinion is confirmed by information given by F. H. VAN NAERSSSEN in his article "Twee koperen oorkonden van Balitung" (Two copperplate charters from Balitung)⁶⁷ where he quotes a passage in a manuscript of the Candakarana (Ms. Or. 4570, Leyden Univ. Libr.) from which it is evident that *pirus*, being a translation of Sanskrit *kuṣīlava*, means actor; on etymological grounds C. C. Berg had come to the same conclusion. VAN NAERSSSEN is inclined to consider *pipirusa* to be a derivation of *pirus*, with the meaning of "wishing or intending to act as a *pirus*".

⁶⁴ Sut. CXIII 6.

⁶⁵ Br. I pp. 607 ff. 5b; *ibid.* pp. 619 ff. 5b. See also Br. II pp. 49 ff 9b and E.B. pp. 14 ff Vb 1.

⁶⁶ R. XXIV 106.

⁶⁷ B.K.I. XCV (1937) pp. 459/460.

IV

MEMBRANOPHONES

The discussion of what is known of the Old Javanese drums takes us to a field full of uncertainties as regards details. A dozen names of drums have come down to us from literary sources, and several types of drums have been found on the reliefs. In most cases it is, however, difficult to correlate names and types correctly.

The oldest literary references to drums known to me (*paḍahi* and *muraba*) are found in two Old Javanese charters of A.D. 821 and 850 respectively.¹ Even without these there should be no doubt as to the existence of drums in that period. For drums in any form are a very ancient cultural feature. They are absent only in the most primitive communities: the Australian tribes, Wedda, Semang, Sakai, Fuegians and several South American Indian tribes. Drums were part of the cultural heritage of India and China even in prehistoric times.

A. Representations of Drums

Drums of many types appear in great numbers on the Barabudur and on the Prambanan-complex, dating from 824 and the latter half of the 9th century respectively: principally two-headed truncated conical, cylindrical and barrel-shaped drums² (figs. 15, 25, 27, 31, 33, 37, 38 and 39; for a schematic representation of some basic drum forms see fig. 121), often carried in a *sléndang*, a shoulder scarf, or by means of a shoulder strap.³ They are played either with bare hands on both sides, or with a stick (figs. 15 and 33),⁴ which is sometimes hooked⁵

¹ Stone of Kuburan Caṇḍi verso 13 (see List of Abbreviations: K.T.) and O.J.O. VI 18.

² Bar. O 1, 52, Ia 1, IBa 42, 266, Ib 83, IBb 30, 43b, 51, 66, 90, II 18, 25, 55, 105, 118, 128, IIB 53b, III 50, IV 7, 10, 37, IVB 42, 75, a.o.; Prambanan, Āiwa temple, 1st basement, balustrade eastside Nos. *b*, *c*, *e*, *g*, *m* and *n*; southside No. *n*; northside Nos. *l* and *n*. See also Kunst II pp. 81 and 82.

³ Very clear: Bar. O 1, II 105 and 128 (top left) and the majority of the Prambanan drums.

⁴ See also Bar. IBa 42.

⁵ Bar. IBb 66.

on one side or — though rarely — on both sides. The barrel-shaped drums can be divided into symmetrical and asymmetrical forms — the former is common on the Ćiwa temple at Prambanan, the latter on the Barabuđur — and into squat and long types (figs. 15, 37, 38, 39).

In addition to these, some slightly “waisted” drums ⁶ (figs. 14, 26, 31 and 32) and earthenware drums ⁷ (figs. 6, 12 and 20) can be seen on the Barabuđur. A Prambanan relief (fig. 41) also seems to show two earthenware (?) drums, decorated with skins and festoons. Earthenware drums are very old. If the names of two of the Sanskrit and Old Javanese types of drums: *mṛdangga* and *mardala* are derivations of the Sanskrit substantive *mṛd* = mud, the original meaning could possibly be: vessel of clay, earthen pot. Apart from such earthenware drums, Barabuđur also shows an object that could be qualified as “sound pot”. It is an earthenware vessel — presumably half-filled with water — above which hands are clapped. The sound pot acts as a resonator (fig. 17).⁸

The truncated conical, the cylindrical and the barrel-shaped drums on the Central Javanese reliefs all show the Indian way of skin-stretching — *i.e.* by means of straps — but without the so-called guiding rings. In addition, the barrel-shaped drums sometimes have a hoop close to each rim, which functions as an “interim station” for the straps (figs. 15, 25, 31 and 37). In present-day Java this method of skin-stretching with straps is still used, and always with guiding rings.

At present there are also two other methods in use in Java, namely the Chinese (and old Assyrian) way, which uses flat-headed nails or wooden plugs ⁹ and the typical Indonesian method which uses a rattan hoop to keep the skin stretched, sometimes with wedges between hoop and drum. Although as far as I know not found on the Central Javanese temples, this latter method must have been in vogue among the people at the time, as it was in later centuries in Majapahit, and still is in the whole of Java. For the Majapahit period (end of the 13th to the beginning of the 16th century) its presence in East Java has been made plausible by one representation on Caṇḍi Panataran (fig. 56) and a few terra-cotta statuettes (fig. 65 at 3) excavated by H. Maclaine

⁶ Bar. O 151, IBa 318, II 18, 55, 122 and IV 7.

⁷ Bar. O 72, 149, IBa 46, 300, IBb 10, IIB 44, IV 10.

⁸ Bar. Ib 19, also IBb 1.

⁹ This is the method used on the *bedug* and *teteg* in the mosques and the *kraton gamelans* and sometimes on the West Javanese (*ba*)*jidor*.

Pont; at present it can be observed on the various kinds of *dogdog*¹⁰ (East Java: *réog*) and many frame-drums (*terbang*).

The above-mentioned Indian-way of stretching the skin was also known in East Java. This is borne out by a relief on Caṇḍi Tégawangi (near Paré, res. of Kediri) (fig. 63) which shows a cylindrical drum of that kind.

Returning one moment to the waisted drums, I may draw attention to East Java, for this part of the island adds some specimens to the ones known from Central Java: a Bhairawa statue from the middle of the 13th century found at Caṇḍi Singasari near Malang holds such an instrument, presumably a clapper-drum (Sanskrit: *damaru*), in its left rear hand (fig. 48). One clearly sees the knob, or rather one of the knobs, which are attached to the body of the drum by a cord (fig. 48a); by shaking the drum to and fro, the knobs strike the drum heads. Another one, a bronze clapper-drum about 6 in. long, originally mounted on a stick, was excavated in Kediri Residency (District of Gandusari, *désa* Salumbung) in 1930.¹¹ It is the bronze equivalent of the modern Balinese *ketiplus*, also mounted on a stick (although this instrument has no waist).¹² On one of the other priestly attributes found together with this instrument, the *Çaka*-date 1209, *i.e.* A.D. 1287, was inscribed. Consequently this find dates back to the end of the Singasari period.

Finally, it is not impossible that the terra-cotta objects excavated by H. Maclaine Pont in the Majapahit precincts (fig. 67) are waisted drums, although I must admit that they resemble the pedestals of those large flower pots used to adorn (or mar) old tropical residences. However the waist of these pedestals is not in the middle as is the case with the Majapahit objects; moreover the lower part of the former always has a larger diameter and is more solid than the upper part. The possibility that in this case we are dealing with drum bodies is made more acceptable by the presence of grooves, close to the rims, which may have served to fasten the skins by means of cords. Prof. E. M. von Hornbostel, to whom I sent a copy of fig. 67, also pointed this out. Furthermore he suggested that the twisted figure near the waist of two of the objects could be a rudimentary representation of a

¹⁰ According to Grosset the Indian *damaru* is also called *dugduga* or *dugdugi* (Grosset p. 360b). A. A. Bake considers the names given by Grosset to be questionable. N. A. Jairazbhoy remarks that *dugduga* seems to point to *dubduba*, a kind of friction drum known in Bengal.

¹¹ Djak. Mus. No. 5960. Cf. O.V. 1928 pp. 97 and 98.

¹² Cf. Kunst IV pp. 125 and 233.

snake. This, too, would point in the direction of a waisted drum, because the other type of waisted drum, the mythological *ḍamaru*, an attribute of Bhadrakālī, Īiwa and other heavenly beings, is also usually depicted in India with snakes wound around it.¹³

If Van Stein Callenfels' dating of the Ghaṭotkacācṛaya (c. 1190) is correct and if JUYNBOLL II is right in considering the *tabang-tabang* (first mentioned in this Old Javanese work) as equivalent to the *terbang*, this type of frame-drum — which we are inclined to connect with Islam — occurred as early as the 12th century and would therefore be pre-Islamic. It may well be that we find representations of these frame-drums in the hands of some of the terra-cotta statuettes found in the soil of Majapahit (figs. 65 at 2, 65a and 65b at 1), although the possibility remains that these are not musical instruments but betel bags. However an argument in favour of the *terbang* is the double rim shown by the figure at the right in fig. 65a, which might indicate the Indonesian method of drum-skin stretching by means of a rattan hoop.

For the famous bronze kettle-drums — not membranophones — see p. 47.

B. Names of Drums

The above sums up all Old Javanese drum forms known to me both in representation and as actual objects.¹⁴ The difficult task remains of allocating the various names of drums from charters and literature to the above-mentioned forms. The reader will find that it amounts to no more than a well-meant attempt. This is not really surprising. In a similar attempt with Indian drums — and in that case it merely concerned names and instruments from the same area — Curt Sachs, organologist without peer, felt compelled to preface his pages with the statement: "Alle Versuche, bestimmte Trommeln mit den einzelnen Namen in Gleichung zu setzen, müssen an dem wilden Durcheinander der indischen Trommel-Nomenklatur scheitern."¹⁵ It will, therefore, be

¹³ According to Sachs II pp. 74 and 75. There is no trace of snakes on the bronze Old Javanese clapper-drum mentioned above.

¹⁴ "The orchestra of drummers" referred to in Krom I (vol. II 1st ed. p. 180, 2nd ed. p. 278), on a relief of the *pendapa* terrace of the Panataran complex, does not have to be mentioned in this connection; the musical instruments on that relief not being drums at all. They are *réyongs* and therefore idiophones; see pp. 59 ff.

¹⁵ "All endeavours to associate particular drums with the different names must fail because of the confusion created by the instability of the Indian nomenclature" (Sachs II p. 58).

quite understandable that the allocation of Sanskrit names to Old Javanese drums will often meet with great difficulties.

The word *mṛdangga*,¹⁶ which appears fairly frequently and is sometimes wrongly translated as *gamelan*,¹⁷ most likely refers to a barrel-shaped drum, as it does in India itself. There since ancient times it has featured prominently at such solemn functions as processions, receptions and durbars.¹⁸ On the Barabudur it usually appears in celestial scenes.¹⁹ The truncated conical form, on the other hand, seems generally to be more terrestrial in character,²⁰ although it is by no means entirely absent in scenes of the hereafter.²¹ Ćiwa's dance, depicted in such irresistibly rhythmical fashion on the first tier of the main Prambanan temple, is also accompanied by barrel-shaped drums, with only a few exceptions.^{22 23}

Like the Indian type of that shape, the truncated conical instrument was presumably called *mardala*.²⁴ However, of all names of drums, the name *paḍahi* (sometimes written: *padahi*; var.: *baḍahi*)²⁵ — as a single word or in compounds — appears most frequently. The truncated conical form of drum is still the most popular type in Java and

¹⁶ B.P. 10, 12, 35, 72, 83, 130; Wir. 49, 77; Smar. IV 11, XXXII 4; W. XX 6, XXIII 2, XXV 5, XXXI 1; B.K. XXXIX 21; R.L. XI 36, 61, 158; H.W. XVIII 10, L 8; Ud. 90; Utt. 104; B.Y. IX 10, X 8, XIX 20, XXVI 1, XXXIX 2, XLIX 6; Sum. LII 6 (?); T.K. 17; Nag. XXXI 3, LXXXIII 6, LXXXIV 2; Hrsw. II 41b; U.B.; K.S. II 128; Nawar. 64; Pam. IV 79, 237; B.B. 24; Sor. III 95. In Ć.K. 7, 8 yet a Prakrit form *maḍangi* = Sanskrit *mṛdangin*, a *mṛdangga*-player.

¹⁷ See Poerbatjaraka's translation of the references W. XX 6, XXIII 2, XXV 5.

¹⁸ Grosset p. 359b.

¹⁹ Bar. Ia 1, II 105, IV 7, a.o.

²⁰ Bar. O 1, 52, IBa 266, IIB 53, IVB 42.

²¹ For instance Bar. Ia 1 and IV 7.

²² Eastside No. b.

²³ For a possibly more general meaning of *mṛdangga*, i.e. drum as a generic name, see p. 67 the remarks on *mṛdangga bhèri* and *bhèri* (*bhahiri*) *mṛdangga*.

²⁴ R. XIX 13; Brh. 46; K. Snd. III 10.

²⁵ Stone of Kuburan Caṇḍi (K.T.) *verso* 13; O.J.O. VI 24, IX 1b, 2a, XII b 3, XV, XXIII 6, XXX *recto* 13, XXXV 11, XXXVI *verso* 5, XLVI *recto* 21, LIV *verso* 12, LIX *verso* 15, *verso* 19, LXV 1b 14, CIII b, CIV 1b 7, 2a 7, CVIII b 4, CXII 11a; Batuan IVb 2; Batur P. Abang A IXb 3; Pengotan A I, IIB 1; Batunya A I, IIIa 5; Sibang Kadja Va 1/2; K.O. I, 3, 12, XI 3, 5, XIV b 1, XV a 7, XVII 6, XXII 3 a/b; Br. I pp. 613 ff. 2b, E 46 *recto* 4; K.A. I 5, III a 20; Charter Klampenborg (Van Naerssen No. VIII-3) *verso* 3; Wir. 55; Adip. 121, 202; W. XVI 7; H.W. XXXII 10; B.Y. X 3; Nag. LXXXIV 2; B.P. 65, 130; B.K. XXXIX 12, 30, LXXIV 6, LXXXIII 1; Dj. pur.; R. I 62, II 14, VIII 47, XIX 19, XXII 3, 4, 7, XXIII 72, XXVI 7; T. (version b) I; T.K. 17; Ww. IV 99.

Bali. In Central Java it is a member of the older ensembles in the *kratons* and *dalems* (although at present the barrel-shaped type is more prominent), while in Bali ²⁶ it enjoys the status of hegemony. I therefore venture to suggest that *paḍahi* (KERN's "festive music drum") also refers to the truncated conical form. In any case the reference in the Tantri Kāmandaka ²⁷ shows that *mṛdangga* and *paḍahi* are different instruments because they are both mentioned in the same passage.²⁸

JUYNBOLL II (see above) probably quite rightly equates *tabang-tabang* ²⁹ with *terbang* (frame-drum). *Redep* ³⁰ is a synonym for it; the frame-drum is still called *redap* in Bencoolen.

KERN translates *paḍaha* as kettle-drum (drum would have been better, as *paḍaha* ³¹ is surely akin to *paḍahi*), and *paṭaha* ³² as drum in general. Since the beginning of the Christian era, or perhaps even two centuries earlier, *paṭaha* has been the name of a drum in India,³³ as has been *paṇava*.³⁴ The latter name is also found in Old Javanese literature (*paṇawa*).³⁵

Then there is the word *murawa* (var.: *muraba*) (Sanskrit: *muraḥ*) which appears several times.³⁶ The Rāmāyaṇa-codex 3455f of Leyden

²⁶ The small, asymmetrical, barrel-shaped drums which can sometimes be found in the *gamelan angklung* and in the *purwa* and *wayang wong* ensembles (see p. 77 nt. 185) and which are called *gupek(an)*, form the only, presumably rather modern, exception.

²⁷ T.K. 17.

²⁸ Poerbatjaraka (W. XVI 7) translates *paḍahi* as 'merely music'. Without doubt this can be read as drum-orchestra; not without reason the poet used in his verse the onomatopoeic *gumuruh*.

²⁹ Gh. XXXVI 7; Smar. IV 10; Sum. LX 1; T. V 108.

³⁰ Ww. III 69; Mal. XXXIV, LXIX, 116; Hrs. I 74a, II 38b, 143b, IV 54a; Was. II 102. Cf. Sachs II p. 65. Other modern names are: *rebana*, *rabana*, *robana*, *ravana*, and (in the Kai Archipelago) even *gong*. See also p. 82 s.v. *gérong*.

³¹ Sukawana A I, IIa 2; Bebetin A I, IIB 5; Buwahan A III 7; Nag. XXXI 3, LV 3, LXV 1. [See Pigeaud's text-edition and translation of the Nāgarakṛtāgama. In canto XXXI 3 he translates *paḍaha* as "common conical drums". For the combination *paḍaha-gaṇjuran* the translation "drums" is given.]

³² R. XIX 13 (the Balinese interlinear translation here gives *kemuk*, i.e. a small gong!); Nag. LXXXIV 4; B.P. 140.

³³ Cf. Nāṭyaśāstra. See Grosset p. 359a.

³⁴ According to Grosset *l.c.* in the Nāṭyaśāstra and the Amarakoṣa (7th century A.D.).

³⁵ W.S. 43 (as the name of a poetical rhythmic pattern); Utt. 104; Wir. 85.

³⁶ Ud. 111; R. XXI 207, XXII 3, 4, XXV 11, XXVI 25; Wir. 85; B.K. LXXXIII 1, LXXXV 12, LXXXVIII 35; Kor. 20; Brh. 46; Sip. V 5; Mal. 417; W. XXIII 2, XXIX 5; Rt. XX 19; O.J.O. VI 18; Sut. CXXVII 1b.

University Library, containing a Balinese interlinear translation, gives the Balinese equivalent of this word sometimes as *keṇḍang*,³⁷ sometimes as *réyong*,³⁸ sometimes as *tarompong*³⁹ and once as cymbals (*kencèk* (?)).⁴⁰ In other words, in the period when this particular translation was written, the author did not know to which instrument the name *murawa* referred. The context, however, suggested that it was an instrument which was beaten. As far as I can see it seems quite safe always to read drum for *murawa*. The context also suggests that it was a drum which could be used in war.⁴¹

What the waisted drums were called in ancient Java we do not know. The Indian names *ḍamaru*, *dugduga*, *dugdugi* or *budbudika*⁴² have not as yet been found in Old Javanese literature. Possibly some name indicating an instrument of this kind may be found among the list of names of uncertain or unknown meaning on pp. 82 ff., although I think this is unlikely.

Furthermore there is the Indonesian word *keṇḍang*, the present-day general name for drums with tuning straps in Java and Bali⁴³ (elsewhere in the Archipelago: *gendang*, *göndrang*, *ganrang*). This name possibly existed side by side with the special terms (mostly of Sanskrit origin) as a name for drums in general.⁴⁴ Apparently, however, it sometimes seems to refer to a special kind of drum, as when the *keṇḍang* is mentioned together with another drum. We find an example in the *Wirāṭaparwa*⁴⁵ where *keṇḍang* and *paḍahi* together make a sound like the ocean at the time of the destruction of the world. And here the word *keṇḍang* is certainly not used for metrical reasons, as the Old Javanese *Wirāṭaparwa*-version is in prose.

³⁷ R. XXI 207.

³⁸ R. XXII 3, 4.

³⁹ R. XXV 11.

⁴⁰ R. XXVI 25.

⁴¹ Poerbatjaraka, however, translates *murawa* sometimes as *keṇṭongan* (W. XXIII 2, XXIX 5).

⁴² Grosset p. 360b.

⁴³ Sachs II p. 74. Some other modern names for drums of this type, but of smaller dimensions, are in Bali, *gupek(an)*; in Java proper, *ketipung* and *penuntung*; in the Sunda Districts, *kolanter*.

⁴⁴ R. VII 3, XIX 13, 15, XXII 3, XXVI 7; Bebetin A I, IIa 4 (*gendang*); Wir. 55; K.S. II 98; T.K. 29; Panji K.S. (see Poerbatjaraka II p. 8); H.W. XXXVI 7; Smar. XXIX 8, XXXIII 3; B.P. 130; B.K. LXXXII 11, LXXXIII 1; S.K. 320; S.T. VII 51; Pam. IV 79, 253, 257, 312; Hrsw. II 39b; Sor. III 70; R.L. III 16, IV 7, X 31, XI 25.

⁴⁵ Wir. 55.

Yet another word not to be forgotten in this connection is *bhèri* or *b(h)a(h)iri*.⁴⁶ Nowadays in Java *bèri* refers to a small kind of gong, but in ancient India it meant a small kettle-drum,⁴⁷ so it is not always certain whether in Old Javanese literature we have to translate *bhèri* as kettle-drum or as small gong.⁴⁸

Another name for the kettle-drum, *dundubhi*, also originally Sanskrit, was in vogue in the 10th century, as is shown by another reference in the *Wirāṭaparwa*.⁴⁹ This word hails from Vedic times;⁵⁰ its meaning is considered to be synonymous with that of *bhèri* (in its Indian meaning of course).⁵¹

Finally the word *kāhala* (I) and other terms of similar form — apparently all instrument names — must now be examined.

JUYNBOLL (I and II) translates *kāhala* (I)⁵² as big drum. He refers, in his "Glossarium" as well as in the "Woordenlijst", to *kāla* (II),⁵³ but does not attach it to an instrument there. This he does, however, with *kala* (III), the word which he presumably intended in place of *kāla* (II). For this *kala* (III),⁵⁴ however, he gives: kind

⁴⁶ Wir. 49, 77, 85; B.P. 10, 12, 35, 72, 130; B.Y. X 3; R. VIII 100, XXI 207; R.M. XLII 2; H. LV 5; Ud. 90; Utt. 104; B.K. LXXXII 1; Adip. 203; Ntç. II 11; W. XXIII 2, XXV 5; Sud. IV 98; S.T. VII 33, 70; U.B.; Ww. II; K.S. II 98; T.K. 17; Nawar. 63, 64; Hrs. II 41b, V 53b, 61a; Sor. III 70, 85; K. Snd. III 10; Sut. CXXI 1b, CXXVII 1b; R.L. XI 104; Catur. 5.

For another word *bahiri* with the meaning "bark cloth" or "a piece of garment" see Table B note 31.

⁴⁷ With regard to the Indian kettle-drums see Sachs II pp. 57 ff. and Grosset p. 361a.

⁴⁸ Compare, however, pp. 66-67.

⁴⁹ Wir. 77.

⁵⁰ See Grosset p. 277a.

⁵¹ And with that of the modern term *nāgarā* (Grosset p. 361a). See the picture on that page and comp. further Sachs I pp. 123a and 267a, and Sachs II pp. 58 and 59.

⁵² For *kāhala* and *kahala* see R. XII 65; Nag. LXV 1; B.K. LXXXV 12; Ud. 111; Wir. 70; Sat. CXX 6d, CXXI 1b, CXXIII 5c (in Sut. var. lect. *kalaha*).

⁵³ Which word, according to Van der Tuuk, is also to be found in H.W. XL 6 and Sut. XCIX 7 (Juynboll II reads here *kala* [III]). In Teeuw's text-edition of the *Hariwangṣa*, however, the word *kāladan* (XL 6) is translated as "when the flames were licking them" from the root *alad*. The *Sutasoma*-text used by J. Ensink (see Table A note 22) gives XCIX 7c: *kahala*.

⁵⁴ R. XXII 3, 4, XXIII 72; Sut. CXXVII 1b, CXXX 3a, 11b; W. XX 6, XXIII 2, XXIX 5; Nag. LIX 7; B.Y. XXXIX 2; Smar. XXXII 4; Sip. V 5.

of musical instrument (in his "Glossarium"), and name of a wind instrument (in his "Woordenlijst"), and as a Sanskrit equivalent he mentions only *kāhalā*, although, as mentioned above, he had translated the word *kāhala* (I) as big drum. Furthermore he translates *kāla-kāla* (IV) ⁵⁵ as cymbals but adds a question mark, and finally he gives this same meaning to *kalaha* (V), not indicating whether he means *gong* — which I suppose he does — or real (clashing) cymbals.

In the Nāgarakṛtāgama, KERN translates *kāhala* (I) (in *kāhala-ṣaṅka*) ⁵⁶ as well as *kala* (III) (in *kalaṣaṅka*) ⁵⁷ as cymbals.

Following the example of the Balinese interlinear translation of the version of the Rāmāyaṇa found in the Leyden Codex 3455f, VAN DER TUUK attaches to *kala* (III) the meaning *benḍé* (a kind of small gong) and gives for *kāla* (II) which he considers to be the same as *kālāhā* (*kalaha* V) — unlike JUYNBOLL and KERN who think *kāla* (II) to be a variant of *kāhala* (I) — a reference, *viz.* Sut. XCIX 7,⁵⁸ which was given by JUYNBOLL for *kala* (III). Finally KBwb. II 225 gives a quotation *s.v. kalā* (VI) ⁵⁹: *anabeh murawa gubar sangka mwang kala, i.e.* "they sounded the *murawas*, the *gubars*, the *ṣaṅkas* and the *kalas*", in which presumably *kala* (III) is a typographical error for *kalā* (VI).

In the Balinese interlinear translation just mentioned, *kala* (III) as well as *kāla-kāla* (IV) and *kāhala* (I) are rendered as *benḍé*.

From this state of affairs (and I hope I have not deluded myself, the sources of information being so erratic) it is more than clear that assessing the meaning of any of these words is often very difficult.

It appears to me — and R. Goris agrees on linguistic grounds — that the best translation of the word-forms *kāhala* (*kahala*) (I), *kāla* (II), *kālaha* (*kalaha*) (V) should follow the meaning of the Sanskrit word *kāhalā*,⁶⁰ that is, a kind of trumpet. Wir. 70 supplies another good proof for *kāhala* (*kahala*) in that sense, because there the passage *manyup ṣaṅgakakahala* means "they blew the *ṣaṅka* and the

⁵⁵ R. XIX 13; Krsn. IX 3 (KBwb. II 225 *s.v. kāla* II: *kalakāla*).

⁵⁶ Nag. LXV 1.

⁵⁷ Nag. LIX 7.

⁵⁸ See, however, Table A where for Sut. XCIX 7c is given: *kahala*.

⁵⁹ Sip. V 5.

⁶⁰ Saṅgītaratnākara VI, in verses 11 and 792-3 (comp. Grosset p. 353b). The same holds good for the modern "offspring": Tamil: *kālam*, Gujarati: *gaḷa*, Kannar.: *kahale*, and others. Comp. Sachs II p. 171.

kāhala". This would apply to all cases of *kala* (III) when this word is linked with *çangka*.⁶¹

However, *kāla-kāla* (IV), *kala-kala* (VII)⁶² and also *kala* (III) when not linked with *çangka*, presumably refer to drums, cymbals or a kind of gong. As regards *kala* (III) and *kala-kala* (VII), this interpretation is not suggested by the Balinese interlinear translation of the Rāmāyaṇa which, as we have already shown, must be regarded very critically,⁶³ but such an interpretation is probable because of a passage in the Rāmawijaya⁶⁴ which runs: *ginwal tang bhèri lāwan kala-kala gumuruh ghurnnitādres gumenter*, i.e. "the *bhèris* and the *kala-kalas* were struck; played at a fast pace, they echoed, roared and thundered". The words used undoubtedly give the impression that by *kalas* (*kala-kala*) are meant instruments which are beaten or struck against each other. The same impression is gleaned from a passage in the Rāmāyaṇa⁶⁵ which, referring to *kalas*, says: *tulya gelap*, i.e. "like thunder". In this connection I may mention that in Thailand the bamboo *keṇṭongan* (slit-drum) — also an instrument that is beaten — is called *kalah*.^{66 67}

Concerning the cause of the confusion mentioned above R. Goris was kind enough to tell me this: "The Old Javanese 'classic' poems such as Bhāratayuddha, Rāmāyaṇa (first Cantos), Nāgarakṛtāgama, were rather precise with the quantity of the vowels. In other words, where the metrical pattern asked for it, a word was chosen, a synonym, which fitted into that pattern. This does not apply to the more recent poems nor to the more recent parts of the older poems. I don't venture

⁶¹ W. XX 6, XXIX 5; Nag. LIX 7; B.Y. XXXIX 2; R. XXII 3; Smar. XXXII 4.

⁶² Ud. 107; R. XIX 13, XXI 207; R.M. XLII 2; Utt. 104; Krsn. IX 3.

⁶³ In the Preface to his "Glossarium", Juynboll (I) pointed out already how cautious one should be with this translation: "Our main source," he says, "was the interlinear translation of Cod. 3455f. We have always indicated where this was definitely wrong, often by putting an exclamation mark following the word. However, one should not think that in all other cases the translation is correct. Often the Balinese word has only been translated because the meaning of the Old Javanese word was uncertain. This does not necessarily imply that the Balinese interpretation is right. Seeing how strangely Sanskrit words have been rendered in Balinese, the translation must be treated circumspectly."

⁶⁴ R.M. XLII 2.

⁶⁵ R. XXII 4.

⁶⁶ Sachs I p. 201a. According to Sachs II p. 23 *kalah* is a Malay name for a wooden drum.

⁶⁷ Ranggawarsita renders *kala* by *keṇḍang*. Comp. also Brandts Buys IV p. 20 note 1 col. 1 at top.

to draw a hard and fast line here. The real reason is that the Javanese language does not possess long vowels (\bar{a} , \bar{u} , \bar{i}). If they do appear, it is under the still strongly felt influence of Sanskrit and then either as a contraction (\bar{a} for *aha*) or as a substitution (\bar{u} for *uh*). However, this 'historical' way of spelling is soon dropped and a plain *a*, *u* or *i* is used. In later Old Javanese 'long' and 'short' are used in an incredible confusion, e.g. 'long' vowels are frequently used to make the word appear beautiful and to give it an air of importance, in the way we use capitals".

There is no evidence that the *bedug* already existed in Java during the Hindu period. As far as I know it is not mentioned in the literature.⁶⁸ It only appears in some of the more recent but traditional *warigas* (Balinese astrological calendars) which VAN DER TUUK excerpted in his KBwb., where it is referred to as *bedug titir*, alarm drum (see p. 56 note 53).

However when the Dutch first reached Java in 1596, the *bedug* was widespread and popular. A quotation from "D'Eerste Boeck" (p. 107) referring to the town of Banten (West Java) says: "In every quarter of the town a big drum hangs — as big as three wine casks — which they beat with a hammer resembling a weaver's shuttle, which hangs from it, when they hear that danger threatens (either a fire or a brawl). It is also beaten at noon, early in the morning when the day begins, and in the evening at the end of the day".

In the Hariwangṣa the word *tepak* is twice mentioned, which the editor of the text, TEEUW, translates with "instruments which are beaten". It is not clear what kind of instruments are meant exactly, but as the word *tepak* in modern Javanese refers to a specific way of beating the drum, we may assume that *tepakans* are drums, either drums in general or a special kind of drum, which as yet we cannot determine.

This is the extent of my knowledge of Old Javanese drums. To the question whether the drums have shared the fate of all the old stringed instruments and many of the wind instruments, the answer must be in the negative. It can be said of the genus drum that it has not only fully weathered the passage of time, but that it is represented in a still greater variety of forms today in Java and Bali than ever before. It is true that the "waisted" drums and kettle-drums have disappeared. But

⁶⁸ In three texts (R.L. XI 101; B.B. 25, 62; Mal. 159) we find *teteg* which has now the same meaning as *bedug* (see Kunst IX pp. 15, 214). Possibly in older times *teteg* indicated another type of signalling instrument.

this is largely compensated for by a multitude of other forms: long and short, large and small *dogdog* and *réog*; large and small *terbang* and *gembyung* with or without tinkling discs; large, medium and small truncated conical and barrel-shaped *kenḍang* and *gupek(an)*; single-headed *bajidor*, *jidor* or *jèdor*; two-headed *beḍug*.

Since the Hindu period, the technique of drum-making seems to have improved. The ingenious sliding knots with which the skin tension can be adjusted merely by moving them along the rattan straps, and which are an essential part of all two-headed Javanese or Balinese *kenḍang* today, do not appear in any of the temple reliefs. Yet the ancient Javanese could have known them, such adjusting knots being already in use in 8th-century Chinese Turkestan (Tunhuang), which was strongly influenced by Indian culture.⁶⁹

With regard to the tuning of drums: although Javanese and Balinese musicians, thanks to the perfection of the techniques of stretching drum-skins and their highly developed musical ear, would have no trouble in tuning their drums to a fixed pitch, say, *lima* or *nem*, they are more concerned with nuances of sound than accuracy of pitch (that is, if my observations were correct and if I was not misinformed). The drum-skins are stretched in such a manner that they produce either a rather dull and deep sound (*keḅḍo*), or a pithy, dry and clear sound (*kemrampyang*). Further differences of nuance are produced by varying the place and manner of contact in striking the skin.⁷⁰

This is, and was, different in India and Further India, where drums are mostly tuned to a definite pitch. In Burma there is even an instrument consisting of 16 differently tuned small drums — a kind of drum-chime (the *chaingvaing*). Their precise pitch is not merely obtained by tightening or slackening the straps, aided sometimes by forcing little wooden cylinders or wedges between the straps and the body of the drum, but also by other means: *e.g.* some primitive peoples warm the skin over a fire kept burning during the performance especially for this purpose. In other cases a tuning paste is used. This is a mixture of resin, wax, flour, oil and other ingredients which is generally applied in the middle of the skin to be treated. We do not know whether this tuning paste method was used by the ancient Javanese. If so, it has since been forgotten, and this is understandable, since no value is any longer attached to an exact pitch (which can better be attained by

⁶⁹ See Stein I pl. XXX (c).

⁷⁰ See Kunst IX vol. I pp. 204 ff.

straps and sliding adjustment knots). Yet on occasions I found *kenḍangs* with a circular layer of paint or some kind of sticky substance on the larger of the two skins. According to the players it made the tone more sonorous.⁷¹ In Java these substances should, where they occur, perhaps be called timbre pastes, because, even should they influence the pitch, they are never applied for that purpose, but to improve the quality of the sound. I found an example of this in the *kabupatèn* (Regent's residence) at Pasuruan (East Java) (fig. 105), and another in the *désa* Tjitjadas, north of Bandung (West Java).

⁷¹ As a matter of fact in India the paste is applied for much the same reason (information given by A. A. Bake).

IDIOPHONES

One group of Old Javanese instruments remains to be discussed: the group of idiophones, literally, self-sounding instruments, *i.e.* instruments of which no component part has to be stretched or prepared in any way before they can sound, as is the case with chordophones and membranophones. The aerophones do not come into this category because the sound is not produced directly by their bodies but by the column of air vibrating inside the instrument.

Before beginning the discussion of the idiophones from the Hindu period in Java and Bali, I should point out that bronze kettle-drums, "self-sounders" which have been excavated, fall outside the scope of this discussion. It may be remembered that these instruments reached Java and Bali many centuries before Hindu influence began to make itself felt in this region. They belong to the *Dông-so'n* culture, the products of which, it is assumed, entered Indonesia some centuries B.C.¹

As for Java and Bali, we know a number of these kettle-drums — or the remnants of them — *in natura*; we have in addition a mould in Bali, and finally a small *facsimile* excavated in the district of Tjibadak near Sukabumi, West Java, apparently a burial gift.²

In later times, until the beginning of the 19th century, there were foundries for kettle-drums (in the latest stage of their development) in Gresik (East Java). These instruments, however, were apparently made only for export to Alor, one of the Lesser Sunda Islands, and not for home use.³

¹ See Heine-Geldern II; Heine-Geldern III; Kunst XII.

² O.D. photograph No. 9513.

³ For literature on bronze kettle-drums see Kunst II pp. 26 and 27, and *id.* X p. 236 *s.v.* brass (bronze) drums. See also Heins pp. 128-131 (bibliography).

A. Scraping sticks

The scraping stick (fig. 5 at 2) is found once or twice on the Barabudur.⁴ It appears to be of the same type as the one on the relief of the Bayon of Angkor Thom, Cambodia (fig. 106) dating from the 11th century, and seems to have disappeared from present-day Java. In the collection of the Brussels Musée du Conservatoire, however, there is a bronze scraping instrument hailing from Central Java. It is mounted on a frame very similar to that of a *saron* (fig. 114). At my request, His Highness Mangku Nagara VII made enquiries to find out whether such bronze (or wooden) scraping instruments were still played anywhere in Java. The result was negative. We may consequently assume that this instrument does not exist in present-day Java, nor did I find it in Bali. Elsewhere it is still found in many forms, for instance in New Guinea, in China (the rasp-tiger “*yu*”) and in the Caribbean (*wiri-wiri*, *guiro*).⁵

B. Goblet-shaped cymbals; *kemanak*

I shall have to treat the goblet-shaped cymbals⁶ (figs. 6, 8, 12, 17, 20, 22, 24, 27 and 34) more extensively because I consider them as the bearers of one, or perhaps two, names appearing a number of times in Old Javanese literature. Moreover, I regard them as descendants (or successors) of the *kemanak* which, from a cultural-historical point of view, is so extremely important.

KROM, in his Barabudur monograph, calls these instruments “little bells”. However close examination shows that these and the ones on some of the Prambanan reliefs are not, in fact, little bells but small goblet-shaped cymbals (fig. 34). On the reliefs they are always used in pairs. A number of times (figs. 6 and 27) they are held together by a cord, and they are always handled in a way which suggests a striking against each other with the rims (figs. 17 at 1 and 24).⁷ Where the instrument is shown with the open end towards the viewer (fig. 20 at 1)⁸ there is never a suggestion of a clapper.

⁴ Bar. O 39, 48, 151 (our fig. 14 at 4 ?).

⁵ See further Sachs II pp. 47-49.

⁶ Bar. O 72, 102, 149, Ia 95, Ib 19, IBa 46, 233a, 300, IBb 43b, II 1 (bottom, right), IIB 44 a.o.; Prambanan, Ćiwa temple, first basement, balustrade east-side Nos. *a* and *l*, southside Nos. *d* and *i*, westside No. *d*.

⁷ Bar. Ib 19 and especially II 1 and IBa 233a (at the bottom); Prambanan, Ćiwa temple, first basement, balustrade southside Nos. *d* and *i*.

⁸ For instance: Bar. IBa 46 and 300 (fig. 20 at 1).

Furthermore, among the objects which SIR AUREL STEIN during his investigations into the remains of Central Asian Buddhist town cultures found in Chinese Turkestan,⁹ there is a terra-cotta slab on which identical instruments are depicted; a description of those "bells" written by the expert hand of Miss Kathleen Schlesinger runs: "a pair of bell-shaped cymbals held together by a ribbon or thong. These cymbals give a sound of definite musical pitch, and with this object are sounded by striking one against the other, not by clashing them with a sweeping frictional movement, as is the case with the modern plate-shaped cymbals". When she wrote "These cymbals give a sound of definite musical pitch", Miss Schlesinger presumably had in mind similar instruments from Laos and Burma, pictured and described by KNOSP. This author treats the instruments found in Laos as though they were ordinary cymbals, and their position in the drawing suggests that they are simply struck one against the other.¹⁰ However, he says emphatically that the Burmese *ye-gwin*, attached to each other by a cord and closely resembling the Barabaður instruments, appear in their orchestra in four different pitches.¹¹ This means that they are not clashed flatly with a frictional movement, because this would result in an indefinite crashing sound. When they produce a definite pitch (as they do indeed: one can hear this on recent tape-recordings of Burmese orchestral music), it seems logical that it can only be achieved by bringing the rims delicately into contact with each other.

Hence the situation with the goblet-shaped cymbals is again exactly the same as with so many other instruments (lutes, bar-zithers, harps, mouth organs, scrapers) on the Central Javanese reliefs: their nearest relative appears in South China and Further India. The assumption that these instrument forms have reached Java from Further India becomes more and more plausible with the finding of new parallels.¹²

If my supposition is correct, the name of the Old Javanese goblet-shaped cymbals was *tuwung*. As the name of an instrument this word appears several times, in two charters dated respectively 919¹³ and 943¹⁴ and in the *Rāmāyaṇa* and the *Kidung Harṣawijaya*.¹⁵ KBwb. I

⁹ Stein II, vol. IV (plates), pl. 1 (bottom left) (Yo. 02.); Vol. I, Ch. IV sec. iii p. 103; Vol. III, appendix H. Notes on musical instruments represented in the Stein collection by Katharine Schlesinger, p. 1468.

¹⁰ Knosp II p. 3145b.

¹¹ Knosp I p. 3095b.

¹² See also above, pp. 12-13, 27-28.

¹³ K.O. I 3, 12.

¹⁴ O.J.O. XLVIII *verso* 46.

¹⁵ R. XXII 3; Hrsw. V 61a.

810 *s.v. regang*, it is true, renders *tuwung* by *cèngcèng* (a kind of medium-sized flat cymbals in Bali), in accordance with the Balinese interlinear translation in Cod. 3455f in the Leyden University Library, but JUYNBOLL, thinking of the modern Javanese meaning of the word (*tuwung* = earthen bowl) suggests, in my opinion, a better although much more vague translation: bowl-shaped musical instrument.

As for the *cèngcèng*,¹⁶ the bowl-shape (one of the main characteristics of the goblet-shaped cymbals) is totally absent. But there is more. In two of the four references where the word *tuwung* appears, it is followed by the word *regang*, an onomatopoeic name which undoubtedly belongs to a bronze instrument. Furthermore, in K.O. I *tuwung* is preceded by *paḍahi*, and in the Rāmāyaṇa by *murawa*, both of which, as has been pointed out in Chapter IV,¹⁷ stand for a kind of drum. It so happens that in nearly all the Barabaḍur reliefs showing goblet-shaped cymbals, they form part of a small orchestra which in addition includes cymbals of various sizes and a barrel-shaped drum with tension straps, an earthenware drum or sound pot. Occasionally there are one or two transverse flutes. When one observes that on the one hand these orchestras and the goblet-shaped cymbals of the Prambanan reliefs accompany dancing, and that on the other hand two out of the four *tuwung* references describe merrymaking (inevitably characterized by dancing), it may be clear why I feel justified in allotting the name *tuwung* to these special cymbals and *regang*¹⁸ to the ordinary kind. The fact that the Balinese interlinear translation of the Rāmāyaṇa represents the triad *murawa-tuwung-regang* as *réyong-cèngcèng-gangsa* is no proof that my assumption is wrong. The above-mentioned uncertainty of the Balinese translator as regards the word *murawa*¹⁹ shows clearly that his translation of Old Javanese names of instruments is sometimes pure guesswork.

The *tuwung* exists in Java to the present day in the shape of the *celuring*, a rare instrument which is found only in the Central Javanese Principalities. This also has the shape of a goblet or cup (perhaps one could say "half a coconut"), is made of bronze, and is struck with a small iron bar. I am convinced that in it we see the descendant of the old goblet-shaped cymbals.

¹⁶ See a picture of this in Kunst III p. 474.

¹⁷ See pp. 34 and 38-40.

¹⁸ About the *regang*, see p. 70.

¹⁹ See above, pp. 39-40 and 42-43.

At present as far as I know these instruments have been found only in the Jogja *kraton* (a set of 7 cups) and in the Paku Alaman (a set of 2 cups). In both cases they are mounted together on a frame, with their open ends turned upwards. The frame of the Paku Alaman set has the appearance of that of the *saron*, but it is massive and not trough-shaped. One immediately notices (fig. 109) that the cups and the frame do not belong together — the balance, so characteristic of the structure of all other *gamelan* instruments being clearly absent; one gets the impression that the frame is the most important item, and that the cups are of secondary importance. The *celuring* (fig. 108 *a* and *b*) used in the Jogja *kraton* have been similarly mounted on a massive *gambang gangsa* frame.

Apart from the fact that the *celuring* cups are mounted, and the Old Javanese ones are not, the two instruments show another difference: the *celuring* cups do not have the slightly convex rim of the instruments on the reliefs; this may have something to do with the different method of sound production. This difference, however, is outweighed by the following fact, *viz.* that the *tuwungs* in the reliefs nearly always accompany a dancer.²⁰ They are typical instruments for dance accompaniment, presumably maintaining the rhythm with their melodious and far-carrying tone. The same applies — or rather applied since they are now out of use — to the Paku Alaman *celuring*, as well as to the *kemanak* (fig. 109). At the Central Javanese courts where dancing traditions have survived better than anywhere else, the *kemanak* is used only to accompany the *bedaya* dances.

Because the seven *celuring* in the Jogja *kraton* cover the complete tone series, they have been given a more general usage. When the *gamelan*, the Kangjeng Kyahi Kañcil Belih (*i.e.* Lord Bleating Mouse-deer) to which they belong, is played, the *celuring* are used in the more softly intoned parts of a *gendhing*. In this connection it may be remembered that the *bedaya* dances and also the *serimpi* dances as well as the ordinary *tayuban* are performed to *pélog* music (the very few exceptions, undoubtedly from a later period, confirm the rule).²¹ *Pélog* is the typical tonal system for dancing, whilst *sléndro* is, in the first place, indissolubly linked with the *wayang purwa*.

Finally, the *kraton celuring*-set represents a more recent phase than

²⁰ Exceptions are Bar. O 102 and II 1 (figs. 8 and 22).

²¹ I mention a few *sléndro*-gong phrases in the music of the *bedaya ketawang* (which for the rest is *pélog* music) in the Solonese *kraton*. Cf. for that dance: Hadiwidjojo pp. 87 ff.

the one from the Paku Alaman. The same relationship may be observed between *kangsi* (*brekuk*, etc.) and *bonang*, between *ketuk azri* and the *gamelan gumbeng* of Tulungagung, the *ṭongṭong* or *keṇṭongan* and the slit-drum ensembles of Madura, the *gong* and the Sundanese *degung*.²²

The above had been written when L. C. Heyting pointed out to me the connection between the word *celuring* and the frequently occurring Old Javanese instrument-name *curing*,²³ a connection which VAN DER TUUK had already mentioned.²⁴ R. Goris kindly enlightened me further and told me that the infix *el* means a multiple or a repetition. Thus *celuring* would mean: multiple "curing", or repeated "curing". If the identification of the Jogja *celuring* with the Old Javanese goblet-shaped cymbals is valid, the name *curing* should not — at least, not exclusively — be translated as "bell" (foot bell, prayer bell, elephant bell, cattle bell), as has so far been the case. It would stand — sometimes at least, or perhaps usually — for these goblet-shaped cymbals. Therefore with this last-mentioned interpretation, *curing* and *turwung* would be synonymous.

Yet another point of agreement between the goblet-shaped cymbals and the *kemanak* can be observed: originally the two parts of the cymbals as well as those of the *kemanak*-set were struck one against the other,²⁵ but later they were made to sound separately with a stick.²⁶

If the *kemanak* has indeed replaced the goblet-shaped cymbals as the instrument for dance rhythms — or rather, if it has resumed its former rights²⁷ — this process certainly did not begin later than the 12th century A.D. because the word *kemanak* (*kamanak*) as an instrument-name appears as early as the Bhāratayuddha,²⁸ dating from 1157; it is

²² Cf. Sachs II p. 24 and Brandts Buys II p. 24.

²³ O.J.O. III 10, L 5b, LXXVII recto 17, LXXXIII 8a; Charters Frankfurt N.S. No. 21315 recto 2, No. 21319 recto 8, No. 21320 verso 3; K.O. II 6a, 4, V 6a, 3, VIII 3b, 4; G.O. Vb 1; B.K. LXX 1; B.Y. IV 14, V 8, XXII 10; R.M. XXXIV 1; H. VIII 4; T. I 5; Bs.; R.L. VII 79, 132, XII 15; K.S. III 40; H.W. XXI 2, XXVII 6; Smar. IV 18; Hrsw. VI 49a; Pam. II 46; B.B. 50, 62; Pg. 4.

²⁴ KBwb. I 600 s.v. *curing*.

²⁵ This is still the method of playing the *kemanak* in Bali, East Java and Tjirebon.

²⁶ This applies to all *kemanak*-sets in the Central Javanese Courts.

²⁷ See last alinea of this paragraph.

²⁸ B.Y. L 5. From the translation of this passage by Hazeu it appears that he considers the word *kamanak* to have the meaning of an instrument; according to KBwb. II 333 s.v. it is an insect. See page 77 and note 31 below.

also found in the Old Javanese Calon Arang.²⁹ One of the Panataran reliefs, dating from the second half of the 14th century, provides yet another proof (fig. 57 top right). In addition, some *kemanak*-sets were excavated in East Java (fig. 80).^{30 31}

The *kemanak* is still fairly widespread today in Bali. Its local name is *gumanak* (fig. 115 at 1).³² It is more rare in Java; some specimens are found in the Central Javanese *kratons* and *dalems* and in the Residency of Kediri. In East Java it is also known as *kenawak*, *nawek*, *tèwek*, *keté* or *calapita*.³³

I have tried to show in an article on "The Origin of the Kemanak" (see our fig. 110) that the *kemanak* is a most important instrument from the viewpoint of cultural history.³⁴ In this article I hope I have made it plausible that this remarkable kind of cymbal came into being not later than the beginning of the second millennium B.C. somewhere in the Eastern Mediterranean area, and that in the course of the centuries it found its way not only to South East Asia, but also to South West Africa as early as 1600-1200 B.C.

C. Kakhara-tops; begging bowls with tinkling-bars

Buddhist monks are not allowed to speak while begging for food. To announce their approach they use a *kakhara* (begging staff) with a

²⁹ C.A. II, III.

³⁰ See *Kunst* IX vol. I pp. 180 ff. and II p. 429, fig. 85; Malang Museum, Nos. H.R.L. A 209-212; R. Trop. Inst., Amsterdam, Nos. 1637/1 and 2; Djak. Mus., No. 7083 a.o. — There was also a *kemanak* among the bronze objects excavated in 1928 in the *désa* Slumbung, sub-district of Semen, north of Wlingi, East Java, representing a set of *upacara* (= regalia), one of them a quiver with the date 1185 *Çaka* (= 1263 A.D.).

³¹ The word *kemanak* (*kamanak*, *komanak*) appears more frequently. However it then refers not to a musical instrument but to a grasshopper. Would the similarity of the names have led to an association of the sound of the instruments and of the insect (according to KBwb. II 333 *s.v.* *kamanak*, *e.g.* in Mal.; L.S.; A.N.) (*Kunst* IV p. 113), or would the sound have been the reason for the homophony? To the Javanese, the sound of an animal is one of its most characteristic and determining properties. Or would, in this special case, the form of the instrument be the *tertium comparationis*?

³² *Kunst* II pp. 113 ff. and 221.

³³ As in the case of *kemanak*, the name *calapita* does not refer to a musical instrument only, but also to a species of grasshopper which chirps at night and is said to spell disaster. In Panji K.S. (*Poerbatjaraka* II p. 8) *calapita* refers to an instrument, presumably a *kemanak*. But yet another instrument is sometimes called *calapita*: a magic clapper used by witches. Cf. *Kunst* IX vol. I pp. 190/191.

³⁴ *Kunst* XI.

number of tinkling rings attached to its bronze top. A number of these *kakhara*-tops have been found in the soil of Java. One of these (fig. 71, left) was in the collection of the late Theo van Erp, the well-known Barabuḍur expert and restorer.

Another piece of equipment used by the mendicant monks to make noise and attract attention is the begging bowl with tinkling-bars. This "instrument" has come to our knowledge from one of the reliefs on the buried basement of the Barabuḍur (fig 5 at 4).³⁵ As far as I know none have been found in the soil.

D. Bells with and without clapper

As we have seen, many bronze instruments on the Barabuḍur and Prambanan reliefs, usually called bells, are in reality goblet-shaped cymbals. Nevertheless there are many real bells of a variety of sizes to be found on those reliefs. They are not all handled in the same way; this depends partly on the size, partly on the presence or absence of a clapper, and partly on the purpose for which they are used.

One finds a very large bell, played with a hammer and suspended from a stand (fig. 11)³⁶ and also smaller and very small bells³⁷ (figs. 18, 21, 29, 30, 31 and 33). Bells of this smaller kind are also to be seen on one of the Dièng reliefs (fig. 1) in the hands of little beings and elephant bells are found on a relief of Caṇḍi Nagasari.³⁸

In the central as well as in the eastern part of Java many of these instruments have been excavated, some of them beautifully decorated with garlands and human heads³⁹ (fig. 72).

³⁵ Bar. O 39.

³⁶ Bar. O 131.

³⁷ For instance: Bar. Ia 16 (elephant bell), 55 (*id.*), IBb 89, Ib 70 (elephant bell), Ib 83 (at the corners of a *balé*), II 32, 36, 63, 97, III 21, 22, 26, IIIB 40, IV 7 (to the left under the principal figure), 36, IVB 75; Prambanan, Āiwa temple, first basement, balustrade eastside No. c.

³⁸ Picture in Stutterheim I p. 12, fig. 16.

³⁹ Djak. Mus., Cat. I pp. 245-252; Korte Gids pp. 70-71: Nos. 945-948, 958a, a¹, c, d, f and i, 973-1013b, 1014-1036a; Korte Gids p. 77: No. 5585.

In the collection of the National Museum of Ethnology at Leyden, the Nos. 1403-1662, 1403-1663, 1403-1664, 1403-2051, 1403-2104, 1403-2341, 1403-2374, 1403-2402, 1403-2876, 1403-3011, 1403-3115, 1403-3116, 1403-3354 (described in the Catalogus van 's Rijks Ethnographisch Museum, Leiden, 1909, Vol. V, pp. 151-153). The bell No. 1191/1 has been published in Album Veth pp. 239-240. R. Trop. Inst., Amsterdam, Nos. 1448/1, 1615/10, 1770/1, 2, 73 (our fig. 75), 1772/296 (our fig. 76), 1772/305 (our fig. 78) seems to be a horse or elephant bell, Nos. 1772/303 and /385 (our fig. 79) are cattle bells. Our fig. 77 represents a bronze temple bell from Central Java.

Some are of the kind called pellet-bell (Fr. *grelot*), a more or less pouch-shaped bell with a slit and inside a metal pellet, too large to fall out through the slit (figs. 49 and 74). The Barabuður also shows us such pellet-bells (fig. 28).⁴⁰ In India these bells were (and are ?) called *kinṅkaṇī*, *kinṅkiṇī*, *kinṅkiṇikā* and *kinṅkaṇikā*. Whether or not Hindu-Java called them by these names is not known. To my knowledge they are not to be found with a name of their own in the old literature and the charters.

With rare exceptions, the East Javanese reliefs and images show no bells. One of these exceptions is the well-known Nāga temple of the Panataran complex in Keḍiri, the surrounding *nāga* of which is borne by a number of *geṇṭa* (prayer-bell)-carrying priests (fig. 59).

Furthermore, a number of representations of Nandi, Ćiwa's mount, have been preserved in Central as well as East Java. Some of these are adorned with bell-studded necklaces⁴¹ (fig. 49). Usually a large cattle bell, of the kind still widely used in Java, Madura and Bali, made of brass or wood, hangs from them. In a sixteenth century text such bells are called *okokan* (S.T. V 58).

Often these cattle bells have more than one clapper. On a relief of Barabuður (fig. 29)⁴² (temple) bells are depicted which remind one of such cattle bells.

The Old Javanese name for the large suspended bell is *ghaṇṭā*, as can be seen from instructions for the sculptors chiselled above the image of such a bell on a relief (O 131, see fig. 11) of the Barabuður.⁴³ The name *ghaṇṭā* (*ghenṭa*) is also given to prayer-bells.⁴⁴ At the same time (or perhaps somewhat later) the name *gantang*⁴⁵ was in use. JUYNBOLL II gives for *curing*⁴⁶ the meanings bell and little ankle

⁴⁰ Bar. III 21. Also, for instance, Bar. DB II 5, Ia 27, 34, 56-59, 100, IBa 91, 93, 294, Ib 2, 28, 35, 91, 92, 100, 103, 114, IBb 111.

⁴¹ The most beautiful and best-known in Central Java is the one from the Prambanan Nandi temple (named after it) of c. 850 A.D.; in East Java the Nandi from Singasari of c. 1250 A.D. (at present in the Djak. Mus., Korte Gids p. 24: No. 324d). The former has no necklace.

⁴² Bar. III 21.

⁴³ In Old Javanese literature *g(h)añṭā* (*ganṭa*) or *g(h)enṭa* is also used for prayer-bells. The word occurs: B.Y. V 8, XXI 18, L 7; B.K. XI 1; K.S. III 52; Smar. XXXII 4; S.T. III 32; Hrsw. IV 33a, 91a, V 71b, VI 33b, 89a; B.B. 50; S.H.K. a 13, a 21, b 20.

⁴⁴ A beautiful specimen in Stutterheim I p. 43. Sometimes they are very small: see our fig. 71 at 2, where such a bell is mounted on a finger-ring.

⁴⁵ B.Y. L 6.

⁴⁶ See above note 23.

bells. An instrument of the same name is mentioned more than once in literature in the descriptions of the ritual used at the solemn consecration of charters.⁴⁷ However, as has been suggested before, *curing* may also have been used on occasion as a name for the goblet-shaped cymbals on the Barabudur and Prambanan reliefs.

In present-day Bali, the only place where the word still exists, *curing* or *coring* refers to an instrument like the Javanese *gambang gangsa*, in other words to a multi-octave metallophone.⁴⁸

Of all these various bells, only the long-stemmed prayer-bells (*geṇṭa*), crowned with a symbol of some kind, are still used by the Balinese *pedandas* and the Tenggerese *dukuns*.⁴⁹ They play an indispensable part in the ritual. Furthermore one finds a number of small bells mounted on a wooden frame more or less in the form of a small tree. In Bali they occur rather frequently (*gentorag*);⁵⁰ at the Central Javanese courts there are only three specimens left, called *geṇṭa* and *klinṭing* in the Solonese *kraton*, and *byong* or *kembang dalima* in the Jogjanes *kraton*.⁵¹ In some old *gamelans*, (for instance in the Sultan of Banten's *gamelan Suka Ramé*,⁵² there is a long row of small bells mounted on a wooden stand. Finally, as has been pointed out already, wooden and brass cattle bells are still widespread in Java as well as in Madura and Bali.

This is enough about these instruments which nowadays are no longer important.

E. Kulkul

I can be brief about the slit-drum *kulkul(an)*, *kukulan* or *titir*⁵³ (modern Javanese *keṇṭong(an)*⁵⁴ or *ṭongṭong*, Balinese *kulkul*, Madu-

⁴⁷ Along with the *curing* an important role in that ritual is played by a white umbrella. Compare K.O. II 6a 4; K.O. V 6a 3; G.O. Vb 1.

⁴⁸ For some particulars about the Balinese *curing* see Kunst II pp. 75 and 209 and tables VI and VII.

⁴⁹ Kleen *passim*; Scholte opposite p. 68; Kunst II pp. 123 and 232.

⁵⁰ Kunst II pp. 13, 82/83, 124, 233; *id.* III p. 474 fig. 12.

⁵¹ Kunst IX vol. I p. 184. In the Bs. we find the word *k(a)lènèng*, which Van der Tuuk translates as bell (Dutch: *schel*; see KBwb. II 237 *s.v.* *klènèng*).

⁵² Now in the Djak. Mus. (Cat. II p. 61: Nos. 1243-1250, 1252-1256).

⁵³ The original meaning of *titir* is alarm. Sometimes we find the word coupled with other names of signalling instruments, for instance: *bedug titir* (KBwb. IV 931 *s.v.* *bedug*), in some of the *warigas* (Balinese astrological calendars) parts of which have been incorporated by Van der Tuuk in his dictionary.

⁵⁴ See, with regard to *keṇṭongan*, also p. 4. The instrument-name *gendongan*

rese *ṭongṭong* or *ṭungṭung*), mentioned a few times in ancient literature.⁵⁵ In 1917 MEIJER in his treatise "De spleetrom" ("The slit-drum") and in 1925 BRANDTS BUYS II in "Oude klanken" ("Ancient Sounds") have given us a great number of details about the Javanese forms of this well-known and ancient signalling instrument.⁵⁶

Whereas in Java and Bali these instruments, in bamboo or wood — the large ones suspended, the smaller ones held in the left hand — are always handled "individually", in Madura small slit-drum-ensembles (*ṭongṭong ḍhukḍhuk*) are to be found for musical purposes.⁵⁷ In Bali, as in Java, they are used exclusively for signalling. On this Hindu island the instruments are suspended in groups of three or four in a graceful structure not unlike a little temple (*balé kulkul*) in one of the corners of the village compound⁵⁸ or under a small awning high up in a large waringin tree. The people know the pitch of each of the instruments and can tell by the rhythm what has happened or what is to happen. Each *désa* and also each *sekaha* (club) has its own *kulkul*(s) and uses a different code. There are also *kulkuls* of enormous dimensions, mounted on low four-wheeled carts.⁵⁹

It is certain that the *kulkul* was also used as an instrument for signalling in the Hindu period (and in the pre-Hindu period as well).⁶⁰ Furthermore, the Bhāratayuddha⁶¹ tells us that the *kukulan* used to be attached to an animal trap. The struggling of the animal sounded the *kukulan*,⁶² thereby informing the hunters.

At that time there were not only wooden and bamboo slit-drums, as is the case today, but also beautifully decorated bronze ones. The Museum at Djakarta has several of those bronze *keṇṭongan* (fig. 73) — one from the Tjirebon area,⁶³ two from Bali,⁶⁴ and the others from

occurring in the Babad Bla-Batuh (29, 64) has according to Van der Tuuk the same meaning (KBwb. IV 643 *s.v.* *gendong*).

⁵⁵ *Kukulan*: Sud. II 17; *kukulan*: B.Y. L 6; B.K. VII 5, XL 2; Smar. XXVI 9; *titir*: Ww. III 153; Smar. XXXI 3.

⁵⁶ Meyer; Brandts Buys II pp. 20-26; Kunst IX vol. I pp. 192 ff.

⁵⁷ Brandts Buys IV pp. 72 ff.

⁵⁸ See the picture in Heyting opposite p. 136.

⁵⁹ See the picture in Heyting opposite p. 137 (photo J. J. de Vink, photographer O.D.).

⁶⁰ Cf. p. 4.

⁶¹ B.Y. L 6.

⁶² Compare the bamboo spring clappers fastened to the vertical posts of Buginese looms (see Kunst V pp. 49/50).

⁶³ Cat. I pp. 247-248: No. 970.

⁶⁴ Korte Gids p. 70: Nos. 972a and b.

East Java, chiefly from Kediri.⁶⁵ Museums in The Netherlands also have some beautiful specimens.⁶⁶

Finally I draw attention to a peculiar globe-shaped slit-drum with a handle, found on relief O 39 on the buried basement of the Barabuḍur (fig. 5, bottom left, at 3). A similar instrument named *mo* is still used today in Vietnamese temples (fig. 107)⁶⁷ and in Western jazz bands under a different name.

F. Taluktak

The *taluktak*, the bamboo water-clatterer or tilting bamboo, is mentioned several times in the surviving Old Javanese literature.⁶⁸ The instrument, which in Java is now mostly called *bluntak*, consists of a bamboo tube with a node about halfway down, which swivels vertically in a bamboo frame, with its mouth pointing upwards. This is effected by placing the axis slightly above the node. The heavier lower part of the tube rests on a stone. The device is placed with its mouth in falling water. When the top-end is filled with water, it becomes heavier than the bottom-end and the tube swivels over, thereby emptying itself and promptly swivelling back to its previous position, hitting the stone. In this way an intermittent sound like that of a stamping drum is created.

This is not primarily a musical instrument. In the first place it serves to let the *sawah* owner know at night or when he is inside his house that his ricefields are still receiving water — in other words, that his neighbours, higher up the slope, have not cut off his water supply. In the second place however, the Javanese peasant with his innate feeling for sound and fancy has tried to serve beauty as well. He often installs, quite superfluously, a whole series of such *taluktak*, each of a different size and consequently of different pitch. The result is an intriguing and capricious series of notes.

Without any doubt, the *taluktak* was known in Java before the Hindu era. This may be concluded from the fact that primitive tribes closely

⁶⁵ Cat. I pp. 247-248 and Korte Gids p. 70: Nos. 968, 969, 971; and Museum Nos. 5967 (1287 A.D.) and 5968.

⁶⁶ R. Trop. Inst. No. 1289/26. The *kukul* of the *kenṭongan* type in the collection of the National Museum of Ethnology No. 1630-16 has been described in the Catalogus van 's Rijks Ethnographisch Museum, Leyden, 1909, Vol. V, p. 153.

⁶⁷ See also Knosp II p. 3119, figs. 615-616.

⁶⁸ B.K. XL 2; B.Y. L 5; H.W. XX 16; S.T. I 11, 58; Ww. III 29; Mal. 38, 417; Gh. VII 5; Smar. XXI 5 (acc. to KBwb. II 699 *s.v.* *taluktak*).

akin to the peoples of the Archipelago, such as several Moi tribes in Vietnam, also know those musical contraptions, often of an even more complicated construction.⁶⁹

G. Réyong; kangsi; kajar; trompong; bonang

The instrument shaped like a dumb-bell and called *réyong* appears four times on the Cañdi Panataran reliefs (fig. 62), once on the reliefs of Cañdi Ngrimbi (fig. 52), both of which sites are in Keñiri Residency, and three times on an Old Javanese sculpture (fig. 47) found by J. L. Moens, also in Keñiri, in 1931. All these images date back to the 13th and 14th centuries.⁷⁰

In Old Javanese literature the *réyong* is mentioned in the Pararaton⁷¹ and in the Malat;⁷² in the Rama Sasak the instrument is called *kalèntang*.⁷³

Today in Bali there are still many *réyongs* (also *riyong*, *bebonangan* and *klèntangan* [fig. 115 at 2]), sometimes played in the *gamelan gong*,⁷⁴ often in the *gamelan angklung*,⁷⁵ and invariably in the *gamelan bebonangan* which is named after it.⁷⁶ It is uncertain whether it still exists in present-day Java. However, it is certain that it was used until the beginning of this century in the Regency of Bandjarnegara (Residency of Banyumas).⁷⁷ It is noteworthy that the bar which connects

⁶⁹ De Gironcourt pp. 56 ff.

⁷⁰ In addition, one more image of a *réyong* has come to our knowledge, namely on a relief on a shrine discovered by Schnitger at Si Djoreng Belangah in Padang Lawas (Tapanuli, North-western Sumatra). Cf. Schnitger pl. VI, ill. bottom left, right-hand relief. The same picture in F. M. Schnitger, *The Archaeology of Hindoo Sumatra* (Int. Arch. f. Ethn., Suppl. to Vol. XXXV) pl. XXV, ill. middle left, right-hand relief. The author himself took it to be a drum instead of an idiophone (Schnitger p. 12 at *a*). But then he was not a musicologist.

⁷¹ Par. XXIX 6.

⁷² Malat 1. Sometimes the Balinese interlinear translation of the Old Javanese Rāmāyana, as has been pointed out (pp. 39-40), renders the drum name *murawa* as *réyong* (see KBwb. IV 541 *s.v.* *murawa*). It probably is this (in my opinion) incorrect representation of *murawa* which is to blame for the fact that (KBwb. I 776) the *réyong* is said to appear also in the Arjunawiwāha (XXIX 5). In that reference, however, only the *murawa* is mentioned.

⁷³ R.S. XI; cf. KBwb. II 236 *s.v.* *kalèntang*.

⁷⁴ Kunst II pp. 69 ff. (esp. p. 78).

⁷⁵ *Ibid.* pp. 95 ff. When the *gamelan angklung* accompanies the war-dance *cumangkirang*, it is called *gong cumangkirang* (comp. Kunst II p. 107). It is found in the Malat (303, see KBwb. I 679) under the same name. See for the word *cumangkirang* also B.B. 50, 62.

⁷⁶ Kunst II p. 46 note 11 and p. 223 fig. 24.

⁷⁷ Kunst III p. 451.

the two kettles, in Bandjarnegara as well as on the Old Javanese reliefs, was rather thick and unwieldy, whereas the modern Balinese instruments have a more slender connecting bar. Consequently it seems that after the Old Javanese period this thick variant existed in Banyumas and apparently nowhere else. This can possibly be explained by the fact that in 1615 Sultan Agung of Mataram transplanted that part of the population of Wirasaba (previously called Majapahit and today Madjaagung), which had not fallen a victim to his atrocious regime, to Banyumas under the rule of a son of the slain Regent. It would be interesting to see whether more Majapahit cultural remnants could be found in Banyumas.

If I say that the *réyong* presumably no longer exists in present-day Java, I do not present an entirely correct picture, for it is not the *réyong* itself which has disappeared but only the special way of mounting its kettles. I presume that at some time or other this way of mounting was considered less efficient and was therefore replaced by another one resembling the present set-up of the *bonangs*. A similar transition is at present taking place in Bali. There, apart from the dumb-bell shaped *réyongs* in one piece, one finds others, of which the bar is removable so that each kettle can be placed on the ground by itself.

In the next — the third — stage, the bar has disappeared altogether and the widened bar-ends have been replaced by a twin pedestal in the manner of that of the Javanese *kempyang*.⁷⁸ But there is a difference: the kettles do not rest on two crossed cords as in the case of the *kempyang* (and, for that matter, of most modern kettles supported in this manner: *kenong*, *ketuk*, etc.): they do not belie their *réyong*-descent, as the four little holes in the edge of the kettles, which originally served for mounting the kettles on the bar, are still used, although in another way. The cords now run parallel to each other through these holes, so that the kettles hang from them and at the same time rest on them as they cross below.⁷⁹ These twin kettles, usually in sets of four, are as a rule placed in a row and give the impression of being a single instrument.

One further step — the fourth stage — is the placing of the four sets of two kettles on one long pedestal like the single *bonang* series of the Javanese *gamelan carabalèn*. Even so they are still played by four players.

⁷⁸ See *Kunst* IX vol. II p. 425 fig. 68 in the centre.

⁷⁹ See the pen-drawing on p. 101 in *Kunst* II.

It is not certain whether another arrangement, at present used in Burma and Thailand, in which the kettles are placed around the player in a $\frac{3}{4}$ circular frame, was ever used in Java or Bali. A pointer in this direction is however provided by a photograph showing a semicircular arrangement⁸⁰ of the *bonang* series of the *gamelan* Kyahi Bremara in the Jogja *kraton*, a similar arrangement of the kettles of the *ponggang* of the *gamelan talu* in the Malang *kabupatèn*,⁸¹ and the instrument of the same name from the *gamelan carabalèn* in the Prabalingga *kabupatèn*.⁸²

In the fifth stage — and in Bali the final one — the four players have been replaced by one single player. At the same time the fifth tone of the normal five-tone *pélog* — which was not present in the previous phases — has been added. This makes it a different instrument which is called *trompong* in Bali.⁸³

In Java, where we may surmise a similar evolution, a sixth stage has followed in which the somewhat impracticable length of the row of kettles has been halved and these halves have been placed one in front of the other in the manner of the *bonang*-sets of the modern *gamelans*. There was more reason for this change in arrangement in Java than in Bali. On the Hindu island of Bali the five-tone *pélog* series are predominant up to this day, so that a two-octave *trompong* comprises only ten kettles just within the reach of the sticks of the player. In Java, however, the seven-tone *pélog* series are predominant and the extremities of a row of twice seven kettles — fourteen kettles! — are almost certainly beyond the span of one player, especially with the older Javanese “*pélog*” *bonang* kettles⁸⁴ which are a good deal larger than both the modern ones and the “*sléndro*” *bonangs*.

It may be assumed that the single kettle is older than, for instance, the ingeniously constructed dumb-bell shaped *réyong*. Until the present day it has existed as an independent instrument under the names of

⁸⁰ Not suspended, however, but lying loose on two parallel cords (although the four holes are present). For the photograph showing the semicircular arrangement see Kunst IX vol. II p. 434 (ill. 108).

⁸¹ Kunst IX vol. II p. 437 fig. 114.

⁸² I do not know whether the semicircular arrangement (which is of recent date) of the five excavated *bonang* kettles in the Sriwedari Museum at Solo is derived from older, similar constructions.

⁸³ According to McPhee II p. 75, the four tones of the *réyong* are *dong*, *dèng*, *dung*, *dang*. Consequently, in the *trompong* the note *dung* would have been added as first note of the scale.

⁸⁴ I refer to the older ensembles such as the *gamelans carabalèn* and *munggang*.

*ketuk*⁸⁵ and *kenong*⁸⁶ in Java, and of *kempli*, *kenuk*, *petuk*, *kajar*,⁸⁷ *celuluk*, *kangsi*, *kenong* and *kemong meplawah*⁸⁸ in Bali. That such single kettles were already known in Java in the Central Javanese period is certain. There seems to be one of these on the Barabudur reliefs: the object on a supporting structure, rounded in shape and played with a stick (relief IBb 89) could be a *ketuk* (fig. 21 at 2). If so, it forms part of a strange little band, its partners being a xylophone (to be discussed later) and a bell suspended from a stand.

The kettles excavated in Central Java cannot be dated exactly but are presumed to be of a later date despite the fact that they have the four "*réyong*-holes".

However under the name of *kangsi* this instrument can in any case be traced back to about 1000 A.D., because it is mentioned in the Pūr wādhigama. If the Old Javanese version of the Rāmāyaṇa, in which it also occurs, really dates back to the 10th or 9th century,⁸⁹ it can be traced back even further.

Two other names of instruments make the existence of the single kettle of the *bonang* or *kenong* type a certainty as early as the Central Javanese Hindu period. I refer to the names *brekuk* and *bungkuk*. *Brekuk* occurs in two charters, one dated 902 A.D.⁹⁰ and the other 919 A.D.⁹¹ *Bungkuk* appears but once and that in a charter of 943 A.D.⁹²

My conviction that these words were used for single kettles is based

⁸⁵ See Kunst IX vol. I p. 163. The word appears in the Serat Kaṇḍa 320.

⁸⁶ *Ibid.* pp. 160 ff.

⁸⁷ This instrument-name appears in an Old Javanese charter, *viz.* in Charter Frankfurt N.S. No. 21320 *verso* 4. This charter — dating from the Majapahit period — is a copy of an undatable older original. For a reference in Old Javanese literature see S.T. VII 33.

⁸⁸ See Kunst II pp. 36, 62, 74, 79, 80, 109, 112, 115, 117, 126, 127, 183, 227, 235, 236, 245, tables VI and VII.

⁸⁹ Pg. 4; R. XIX 13, XXVI 23. — See p. 111 note 60. — Further *kangsi* is mentioned as a simple word or in words derived from it: Smar. XXIX 8, XXXIII 3; W. IV 2, XXXIII 1; B.K. XL 2; B.Y. L 5; W.S. 93; Sut. IX 4c; C.A. II, III; H.W. XIX 6, XXVII 7; Gh. III 5; Mal. LXXXIV; Was. XX 29; L.S. XXIV 1; Panji K.S. (see Poerbatjaraka II p. 8). However in some of these references the word possibly does not have the meaning of an instrument-name. The derived form *angangsyan* might be translated as 'to play (together with)' and the form *kinangsyan* as 'played (together with)'. In Priyono's translation of the Sri Tañjung *angangsèni* is rendered by 'to accompany on the *gamelan*' (V 93).

⁹⁰ K.A. IIIa 20.

⁹¹ K.O. I 3, 12.

⁹² O.J.O. XLVIII *verso* 46.

on the fact that, as far as I know, in Java and Bali all the other instruments with names ending in *uk* are, without exception, single instruments of this type: *celuluk*, *engkuk*, *kenuk*, *ketuk* and *petuk*.

Seemingly in contrast with this is the mention of a functionary called *mabrekuk* in the oldest of the charters quoted above. Why should the player of one of the ensemble's less prominent instruments be classed amongst the court officials? It is precisely this fact which constitutes an argument in favour of the hypothesis "*brekuk* and *bungkuk* = *kenong*". The great importance of the tradition of cock-fighting in ancient Hindu-Java as well as at the present-day Balinese courts and in village life is well-known. The number of well cared for fighting cocks which can still be seen under their rattan cages around houses in North and South Bali is legion. No wonder! These fights were, and still are, a ritual act with a religious background.⁹³ At the same time they satisfy in no uncertain manner the innate desire of the people to gamble.⁹⁴ An indispensable element in these cock-fights is the use of just such a kettle of the *kenong* type. In Bali this instrument, when so used, is now called *kemong meplawah*.⁹⁵ In the edicts (*awig-awig*) of the rulers, however, the instrument is always called *kenong* when there is reference to cock-fights.⁹⁶ It is this instrument — and only this instrument — that is sounded at the start and the finish of each "round" by the *juru kemong* (or *saya*), an official expressly appointed for this function by the ruling prince. This *juru kemong* is also the final referee in all the fight's disputes.⁹⁷ Since the Old Javanese and the Balinese societies run parallel in so many respects (in spite of some typical differences), I feel justified in translating *brekuk* and *bungkuk* as *kenong* or *kemong*, and *mabrekuk* as *juru kemong*.

In addition the instrument-name *mongmong*⁹⁸ may be identified with *kenong*.

That the fully evolved *bonang* series (perhaps better *trompong* series because the *bonang* must have been mounted in a single row) was frequently used in the late Hindu period, side by side with the single kettle of the *réyong*, is a fact borne out by the many excavated

⁹³ Van Bloemen Waanders p. 128.

⁹⁴ *Ibid.* pp. 128-133.

⁹⁵ *Meplawah* = lying on a (wooden) support (*plawah*), in contrast to (*kemong*) *gantung* = suspended in a frame (*gayor*).

⁹⁶ Lieftrinck p. 482.

⁹⁷ Van Bloemen Waanders p. 132; Lieftrinck pp. 482 and 483.

⁹⁸ Sum. CXLIX 4.

items from East Java.⁹⁹ A set of twelve such kettles, which according to their appearance and tuning belong together, is now in the Museum at Djakarta.¹⁰⁰ The series comprises two seven-tone *pélog* octaves of which only the *nem* and *barang* of the lower octave are missing.¹⁰¹ As is the case with nearly all excavated kettles of this type, these also have the four holes which indicate, as we have seen, an older method of mounting. An old name for this instrument seems to have been *k(e)romong*.¹⁰² This is still the name for such a series in West Java, South and Central Sumatra and South Borneo (Bandjarmasin).

Many other excavated kettles show a characteristic absent in the ones mentioned above: the upper surface around the central knob protrudes slightly unlike that of the modern instruments. They seem to have been made according to an entirely different process. The modern kettles are forged from a piece of saucer-shaped cast metal, but the older ones seem to have been directly cast, since there are no hammer marks. Fig. 70, from a photograph taken in the palace of the Mangku Nagara in Solo, shows two such kettles with protrusions. SACHS compares them to the biretta of a Roman Catholic priest.¹⁰³

Finally, what are we to think of those remarkable *bonang*-shaped stones which have been found here and there in the soil of Central and East Java? Should we really regard these as imitations of *bonangs*, and if so, placed in the forest for the comfort and recreation of demons and sylvan deities? The Majapahit Field Museum at Trawulan possesses several of these, hailing from the north-western slopes of the Andjasmara mountain (District of Madjakerta); the Museum at Djakarta has about a dozen, one of which (Korte Gids, p. 34: No. 449a) was found in East Semarang, and the eleven others (Korte Gids, p. 34: No. 449b) in the Klatèn area (fig. 82). The Museum catalogue (Cat. I, p. 132), however, calls these objects "*neuten*" (*i.e.* stones used

⁹⁹ Apart from those in the Djak. Mus. (Cat. I pp. 253-254 and Korte Gids p. 71: Nos. 1055, 1056, 1059a, 1060, 1061, 1068, 1068b, c and f; and Museum Nos. 5984a-j), they can be found in the museums of Solo and Madjakerta and in the possession of the Central Javanese princes. The same applies to the gong in a more limited sense, as discussed later. These finds, especially the gongs in private possession, are kept with great care and treasured as valuable "*pusaka*".

¹⁰⁰ Cat. I p. 254, Korte Gids p. 71: No. 1068f.

¹⁰¹ The interval-measurements are to be found in *Kunst* III p. 489 Tab. XI No. 2.

¹⁰² Panji K.S. (see *Poerbatjaraka* II p. 8).

¹⁰³ For more particulars about the *bonang c.s.* I may refer to *Kunst* IX vol. I pp. 153 ff. *Cf.* Sachs II p. 34.

as house-foundations) and H. Maclaine Pont, the founder of the Museum at Trawulan, also believes that several of them, at any rate, were intended as such. The knob on the top would then have served to prevent any beams or bamboo posts erected upon them from sliding off. I am not convinced. The modern foundation stones which have to carry the weight of a house structure are — quite understandably — broadest where they rest on the soil, and then taper slightly towards the top; these stone *bonangs*, on the contrary, are broader half-way up than where they rest on the soil.¹⁰⁴

H. Types of gong

The other instruments in our fig. 70 are gongs in the more limited sense of the word. Broadly speaking the *bonang*-shaped instruments also come under that name. In fact they are small gongs with a comparatively wide rim. However the word gong primarily suggests an instrument with a rim narrow in comparison to its size, suspended, generally in a frame, by a string.¹⁰⁵

The 8th and 9th century Central Javanese reliefs show neither large nor small gongs of the suspended type. It is true that some gongs have been excavated in the Principalities of Central Java, but there is no way of determining to which period they belong. The same applies to those excavated in East Java.¹⁰⁶

There are, however, indications that they were known in 9th century Java, for we learn from the 222nd book of the annals of the T'ang Dynasty (618-906 A.D.) that the Buddhist ruler of Poli, when riding in his elephant-drawn state coach, was surrounded by vassals beating gongs and drums and blowing conch-shells.¹⁰⁷ Irrespective of whether Poli can be identified with Atjèh (as by ROUFFAER)¹⁰⁸ or with Bali (to which KROM is inclined),¹⁰⁹ we may assume that, in either case, Java must also have been acquainted with them at that time. For, if

¹⁰⁴ Cf. also Steinmetz p. 29; Van Heekeren p. 14 and fig. 10; Van der Hoop pp. 121 ff. and O.V. 1938 (Batavia 1939), p. 10.

¹⁰⁵ Particulars about the gong *i.a.* in Simbriger and in Kunst IX vol. I pp. 136 ff.

¹⁰⁶ In the Djak. Mus. gongs are catalogued in Cat. I pp. 253-254 and Korte Gids p. 71 under Nos. 1052a, 1052b, 1053, 1061b, and under Museum Nos. 5892 etc.

¹⁰⁷ Groeneveldt p. 84.

¹⁰⁸ Rouffaer III vol. I p. 72b.

¹⁰⁹ Krom II p. 93: "de Balische Kaundinya" and also *ibid.* p. 87.

Poli is the modern Atjèh, it is obvious that Çrīvijaya which dominated the trade from China to India during that period, knew and used gongs, and it is likely that it also imported gongs into Central Java. And if Poli is the modern Bali, the close contact of this island with Java makes it equally certain that the Javanese courts at least must have known and played gongs. And if the Old Javanese version of the Rāmāyaṇa indeed dates from the 9th century, we have direct evidence of the existence of the *gong* during the Central Javanese period, as it is mentioned in Canto XXV verse 66.

It appears that these royal instruments had little attraction for contemporary sculptors. They are found on only three temples: four on the 14th century East Javanese Caṇḍi Keḍaton and Caṇḍi Panataran, and one on the early 15th century Central Javanese Caṇḍi Sukuh (Residency of Solo).

Of the three on Panataran, one is unmistakably a *gong ageng*. It is carried on a pole in the marching army by two soldiers of Sugriwa and Hanuman (fig. 58). The other two (figs. 55 and 57) and the one on Sukuh (fig. 69) are small signal gongs held in the hands. The gong on the Keḍaton relief (fig. 54) is somewhere in between; it looks like a gong of the *kempul*¹¹⁰ type. All these five gongs are depicted with a protuberance for striking (Javanese *peñcu*, Balinese *bentuk* or *moñcol*). Some of the excavated ones are without this (fig. 70 at 1) and unlike the others, which are a matt black, are shiny brass.

In Old Javanese and Old Balinese literature one occasionally finds the gong mentioned either under the name *gong*¹¹¹ or under that of *bhèri*, *bhairi* or *bahiri*¹¹² (Sanskrit: *bhèri*, Balinese: *bèri*). The fact, however, that in Sanskrit documents the *bhèri* is classified amongst the group of the *avanaddha*, membranophones,¹¹³ makes it likely (and

¹¹⁰ See note 120.

¹¹¹ B.Y. XXXVI 8, XLII 1; R. XXV 66; Nag. LXVI 1; B.K. CII 8, 10; S.T. VII 51; Mal. 117, 417; C.A. VIII, IX, XII, XIII; K.S. II 67, 86, 98, III 69; Panji K.S. (see Poerbatjaraka II p. 8); Smar. XXIX 8, XXXIII 3; Hrs. II 39b, 144a, IV 25b, 30a, 41a, 47b, 53b, V 33b, 45a, 61a, 71a, 75a, 81b, VI 91a; Pam. IV 79, 213, 253, 257, 262, 312; B.B. 50, 57, 62; Sor. III 59, 70, 85; K. Snd. III 10, 13; R.L. III 2, 16, IV 7, VI 13, VII 79, 94, IX 69, 77, 104, X 31, XI 25, 99; Sut. LXXX 4b, LXXXVIII 3c, XCIX 7c, CXX 6d, CXXVII 1b; S.K. 320; Sum. CXIII 3; Ww. II (*gong bhèri*); Was. II 3. For war-gong sometimes is used *pangarah* (from *arah*, to call up, to summon), alone or in combination with *gong*. (See KBwb. I 94 s.v. *arah* II; K.S. II 37; B.B. 25; Dpt. III 3; Sut. LXXXVIII 3c; Was. II 3; Sor. II 127, III 60; Pam. I 109; Mal. 417).

¹¹² Cf. above p. 41 note 46.

¹¹³ See above p. 41 note 47.

this applies particularly to the older literature) that here the word *bhèri* sometimes means drum or kettle-drum as well. That this assumption is valid even as late as the 11th century is borne out by some references from the Udyogaparwa and the Bhīṣmaparwa. The manuscript of the Bhīṣmaparwa used by VAN DER TUUK (KBwb. IV 871 s.v. *bhèri*), fol. 4 reads “*bhairi mṛdangga*”, for which the Sanskrit original gives *dundubhi*; Ud. 90 uses the words *mṛdangga bhèri*, while the Sanskrit original gives only *bhèri*.¹¹⁴ If we are allowed to consider these two words as a compound, then in the first case the drum of the Indian poem (for as mentioned earlier *dundubhi* is the name of a kettle-drum already known in the Vedic period) is a *bhèri* qualified as “*mṛdangga*”, in other words, a *bhèri* in the shape of a *mṛdangga*; in the other case a *bhèri*-shaped *mṛdangga* is meant.¹¹⁵ But it is also possible that in both cases we are dealing with two different kinds of drums or with drums and gongs. In GONDA's text edition of the Bhīṣmaparwa (p. 130) the words *bhèri* and *mṛdangga* occur in a Sanskrit verse “*bheriṣu mṛdaṅgeṣu*”; here the Old Javanese text has *keṇḍang* and *paḍahi*, both names of drums.

In the Ādiparwa version, dating from the same period, the name *bhèri* was presumably used for *gong*. This version says: *tinabeh tang bhèri*,¹¹⁶ i.e. “the *bhèri* was struck”; and *tাবেহ*, to strike, of which *tinabeh* is a derivative, is in musical context primarily used for the striking of *gong*, *saron*, *bonang*, *gambang* and other metal and wooden idiophones, but not for the striking of membranophones. On the strength of the available references, we could perhaps say that in the 11th century also, the word *bhèri*, where it stands on its own, already refers to a *gong*. When the word is used in combination with *mṛdangga* we must bear in mind that it might mean a kind of drum.

But even if *bhèri* had meant *gong* in all instances, which is not the case, one might wonder why Old Javanese literature has not mentioned such an important instrument as the gong more often. The answer probably is that gongs are not only referred to by the names *gong* and *bhèri* but also by other names.

In a passage such as the following, which enumerates a series of war instruments, the *gong*, war-instrument *par excellence*, could hardly be omitted: *humung tang tabehtabehan makādi cangkakāhala murawa(n)*

¹¹⁴ Calcutta edition strophe 4852.

¹¹⁵ For the combination *bhèri mṛdangga* see e.g. W. XXV 5; Wir. 49.

¹¹⁶ Adip. 203.

munda mahāçāra lawan barebet,¹¹⁷ i.e.: "the instruments sounded, especially the *çangkakāhala*, the *murawa*, the *munda*, the *mahāsāra* and the *barebet*". Assuming therefore that it is hidden under another name amongst these instruments, we must look for it amongst the three unidentified names: *munda*, *mahāsāra* and *barebet*.

Barebet originally means noise, *din*,¹¹⁸ so this is a most suitable name for small, incessantly struck cymbals, now called *cèngcèng*, *kecèk* or *riñcik* (arranged in diminishing size) in Bali. They sometimes carry a proper name which is also in keeping with their noisy nature, e.g. *Glagah ketunon*, (the crackling of) a burning *glagah* field. However, even if one does not share this assumption about *barebet*, the word could hardly apply to the *gong* with its powerful and steady note.

On the other hand, *mahāsāra* means great power, firmness and strength. In my opinion a better name for the gong could not have been devised as its all-dominating sound echoes far across the country and "splits the *kraton* walls" (*Bentar kedaton*).¹¹⁹ The person who has made the Balinese interlinear translation of the Rāmāyaṇa has translated *mahāsāra* as *kempul*,¹²⁰ possibly following the same train of thought or still knowing the meaning of the word.

If we see in *mahāsāra* ¹²¹ (also written: *mahasara* and *mahāçāra*) the *gong ageng* or at least a fairly large kind of gong, we may also speculate about the name *munda* (also written: *muṇḍa*).¹²² The Ud. reference is not the only instance where *munda* and *mahāsāra* are mentioned in one breath. The combination appears elsewhere,¹²³ and I think we can assume that we are dealing with related instruments, as is the case with combinations like *kā(ha)laçangka* or *çangkakāhala*, two kinds of wind instruments,¹²⁴ and *mrdangga* and *paḍahi*, two kinds

¹¹⁷ Ud. 111; see KBwb. IV 900 s.v. *barebet*. Cf. note 142 below.

¹¹⁸ W. XXIX 5.

¹¹⁹ The proper name of the gong in a famous North Balinese *gamelan*. (Cf. *Kunst* II pp. 183 ff.). See for the *Bentar kedaton* in A.P. and Ww.: KBwb. IV 854 s.v. *bentar*.

¹²⁰ About the *kempul* see *Kunst* IX vol. I p. 149.

¹²¹ Wir. 52; Ud. 111; R. XIX 13, XXII 3, XXVI 23; Hrsw. V 61a; B.P. 83, 140; K. Snd. III 10. A *māhāsār* is also found among the instruments mentioned in the Mon inscriptions coupled with a verb meaning "to make to rumble". Twitchett and Christie pp. 179 and 182.

¹²² Utt. 137; Ud. 111; B.P. 83, 140.

¹²³ Ud. 111; B.P. 83, 140.

¹²⁴ For references see above p. 31.

of drums.¹²⁵ If my assumption is justified, then *munda* also refers to a kind of gong, probably a smaller one such as the *bhèri* or the *beṇdé*.

Another instrument-name to be mentioned here is *garantung*, which appears several times.¹²⁶ In present-day Borneo it is still the name for a signal-gong.¹²⁷

Yet another name is *dèngdèngkuk*,¹²⁸ probably applying to a small kind of gong, in view of the fact that the word *engkuk* is the name of one of the two smallest suspended gongs in the *gamelan sléndro* ¹²⁹ in Central Java.

Gubar ¹³⁰ is presumably another name for a medium size gong. This word, which occurs as early as the beginning of the 11th century, indicates an instrument the sound of which is described as *matempur*.¹³¹ The only connection this word seems to have is with the *kempur* (modern Javanese: *kempul*; Balinese: *kempur* and *kempul*).¹³² I think JUYNBOLL was quite near the truth when he translated *gubar* as "war cymbal".¹³³

Finally I must mention the word *saragi*. It is true that in Old Javanese literature a kind of bird is known by this name as well,¹³⁴ but apparently this is a homonym. The original meaning of *saragi* ¹³⁵ is a brass pot. Hence JUYNBOLL gives as a translation: "brass musical instrument", where the context suggests a musical instrument.¹³⁶ And

¹²⁵ Cf. above pp. 38-39.

¹²⁶ B.Y. II 6; Sum. LII 2; H.W. XXVII 6; B.K. XCVI 16; Sut. VII 1b; O.J.O. CXVIII 17; K. Snd. III 10. Sometimes a homonym is found, indicating a kind of pigeon (*titiran*): Smar. IX 3; Sut. IX 4 (KBwb. IV 668 s.v. *garantung*).

¹²⁷ Sachs I p. 153a; Sachs II p. 175. See hereafter note 161.

¹²⁸ U.B.

¹²⁹ Its inseparable twin brother is called *kemong*. Cf. Kunst IX vol. I p. 151.

¹³⁰ C.P. 80, 223; B.Y. X 9, 16, XXVI 1, XXXVI 8, XLII 1; Sip. V 5; Catur. 5; R.L. VII 79, 94, XI 104; Sut. XCIX 7c; K.S. III 55; Smar. XXIX 8, XXX 13, XXXII 4, XXXIII 3; B.K. LXXXII 39, LXXXV 12, LXXXVIII 35, CII 8; H.W. XXXII 7, 12, 15, XXXVI 7; Hrs. V 33b, 53b, 61a; B.B. 50; Kor. 20; K. Snd. III 10. An equivalent seems to be *bubar* (R.L. XI 113; Nag. LXVI 1).

¹³¹ C.P. 223; see KBwb. II 762 s.v. *tempur* ("kadi *gubar matempur*").

¹³² (*Ke*)*tempur* (KBwb. II 175 s.v. *ketempur*) and *kempur* are both derived from the root *pur* (KBwb. IV 51 s.v. *pur*).

¹³³ Juynboll II p. 177 s.v. *gubar*. Likewise Jansz. — For *gubar* as a "beṇdé without central knob" see Kunst IX vol. I pp. 15, 16 and 142. — Cf. about the *beṇdé* *ibid.* p. 150.

¹³⁴ KBwb. III 96 s.v. *saragi*: T. V 89; H.W. XXI 2 (ed. Teeuw: *manuk saragi*).

¹³⁵ O.J.O. XXIII 3; O.J.O. CII a, 2; K.O. I 3, 15.

¹³⁶ B.Y. X 16: *gubar saragi*; see Juynboll II s.v. *saragi*.

as the word *saragi* still stands for a large gong in Ternate,¹³⁷ it seems that we can safely add this name to those used for the various kinds of gong in the Hindu period.¹³⁸

I. Cymbals

The reliefs from the Central Javanese period, particularly those on the Barabudur, that rich mine of instrument representations, show many of the percussive idiophones generally referred to as cymbals in various sizes¹³⁹ (figs. 12, 15, 16, 17, 25, 26, 27 and 31). They also appear on the reliefs of Caṇḍi Sari (fig. 4) and Caṇḍi Prambanan¹⁴⁰ (fig. 36). One of them seems to be mounted on a stick (fig. 25). If the view can be discounted that the instruments handled on one of the Panataran reliefs (fig. 62) by the person at the top of the relief are cymbals, it can be said that East Java offers no reliefs of this type of instrument. Its literature, however, amply fills this gap, if I may be permitted to see cymbals behind the names *regang*¹⁴¹ and *barebet*.¹⁴² Furthermore, we possess many excavated finds from the Centre as well as from the East of the island.¹⁴³

To the two names mentioned we must add the name *rojèh*,¹⁴⁴ the name of a cymbal still popular in Central Java,¹⁴⁵ *tāla* (also *tāla* in Sanskrit)¹⁴⁶ — “bald plattrandig mit starkem Buckel, bald leichtgewölbt mit zentraler Spitze”¹⁴⁷ — and perhaps one or more of the names *kala* (if used independently), *kāla-kāla* and *kala-kala*.¹⁴⁸

In the Bali of today cymbals generally enjoy great popularity and are sometimes used in large numbers, especially in the *gamelan gong*.¹⁴⁹

¹³⁷ Encycl. Ned.-Indië vol. II p. 833.

¹³⁸ For the origin and prehistory of the gong see my article in *Ethnos* 1947 pp. 79 ff. and 147; the same in *Kunst* IX vol. I pp. 142 ff.

¹³⁹ Bar. O 149, Ia 1, 52, 95, Ib 19, IBa 46, 266, II 55, 105, 122, 128, III 50, IV 7 and others.

¹⁴⁰ Ćiwa temple, first basement, balustrade southside No. 1 and eastside No. n.

¹⁴¹ K.T. *verso* 14; K.O. I 3, 12; K.A. IIIa 20; R. XXII 3; O.J.O. XII b 3; O.J.O. XV *marga* = *mar(e)ga(ng)*.

¹⁴² W. XXIX 5; Ud. 111; Hr. XII 13.

¹⁴³ Djak. Mus. Cat. I pp. 252-253 and Korte Gids p. 71: Nos. 1038-1045c.

¹⁴⁴ Sum. CXIII 3; L. XVIII 10.

¹⁴⁵ Cf. Groneman pp. 41 and 42.

¹⁴⁶ Wir. 85.

¹⁴⁷ “Sometimes with a flat rim and a pronounced protuberance, and sometimes only slightly convex and pointed in the centre”. — Sachs II p. 19.

¹⁴⁸ See above p. 31.

¹⁴⁹ *Kunst* II pp. 82, 83, 108, 109, 112, 117, 218, 227 and 229; *Kunst* III pp. 441-443 and 474 fig. 12.

In Java, where they are used more sparingly — if they are used in an ensemble at all — they are mainly confined to the archaic *gamelan munggang* and *gamelan kodok ngorèk*, where they are called *kecèr* or *kecicèr*. In some places in the Sunda Districts (West Java) this instrument is known by the name *cecèmprès*.¹⁵⁰

J. Gambang

In the 91st Canto of the *Nāgarakṛtāgama* the poet describes a *kraton* festivity saying: “Kṛtawardhana (the King’s father) began to play the gamelan as a dilettante”.¹⁵¹ At present when it is said of a prominent nobleman that he plays the *gamelan*, it means almost certainly that he plays either the *gambang kayu* or the *gendèr*.¹⁵² I therefore feel that we must see His Highness Kṛtawardhana as playing one of these two.

It is certain that both the *gambang* and the *gendèr* have for centuries belonged to the accepted instruments of the Javanese musical world.

The *gambang* — or rather an intermediate form between *gambang* (fig. 111) and *calung* (figs. 112 and 113) — already appears on the Barabudur (fig. 21).¹⁵³ During the earlier discussion of the flutes, mention was made of the Chinese report about the “wooden slabs” on which Jayabhaya’s subjects played. In addition, we have a few images on the reliefs of Caṇḍi Panataran, and, thanks to the excavations of the civil engineer H. Maclaine Pont, a terra-cotta *gambang* from Majapahit.

Old Javanese literature also lends us support, as the *calung* is mentioned in the *Sumanasāntaka* ¹⁵⁴ and in two Old Balinese charters of 1181 and 1204 A.D.¹⁵⁵

Although in Bali today the word *calung* refers to one of the bronze single-octave species of *gendèr*, still the fact that it appears in both charters next to *saluṇḍing* (*wsi*) which refers to a metal *gendèr* without tubular resonators (as will be shown later) makes it plausible that, if it

¹⁵⁰ For the different kinds of cymbals in Java and Bali see further *Kunst IX* vol. I pp. 183/184.

¹⁵¹ Nag. XCI 5. The word *mamañjaki* which Kern translates as “began to play the gamelan as a dilettante” is rendered by Pigeaud as “is pañjak (initiator) for” (see List of Abbreviations *s.v.* Nag.).

¹⁵² One exception to this rule was the Jogjanese Secretary of State (Rijksbestuurder) Danuredja VIII who was an accomplished *rebab*-player.

¹⁵³ Bar. IBb 89. See also *Kunst I* p. 28, second column.

¹⁵⁴ Sum. XXVII 8 (*Juynbol II s.v.*: bamboo musical instrument).

¹⁵⁵ Buwahan E IIIa 3; Pura Kehen C IIb 3.

is not qualified further, one may see the *calung* as a bamboo instrument.

The mention of the *gendèr calung*¹⁵⁶ in the *Séwagati*, a fairly recent Balinese poem, refers undoubtedly to a bronze instrument. Apparently, in order to indicate the metal *calung*, and to avoid confusion with the "rope-ladder-like" bamboo instrument, the word *gendèr* was added.

As is generally known, the bamboo *calung* in Java has been pushed back to the Sunda Districts (fig. 113) and the Regency of Panaraga in East Java. However in times past it must have been more widespread and a popular Indonesian instrument. In totally different and widely divergent parts of the Archipelago, including Flores,¹⁵⁷ Amboina (*tatabuhan kayu*),¹⁵⁸ Nias (*doli-doli*)¹⁵⁹ and the Batak country,¹⁶⁰ similar instruments justify this conclusion. The Batak instrument takes us directly back to the *gambang*. It may be mentioned that the Batak name for their *calung*-shaped xylophone is *garantung*.¹⁶¹ The same word appears several times in Old Javanese literature,¹⁶² and a *gambang*-like instrument (but with suspended bamboo keys) which in Java still exists in the Regencies of Madjakerta and Banyuwangi, is named *garantang* in Bali, where old forms and old names have a so much greater chance of continuous existence.¹⁶³

The form *g(a)rantang* itself can also be found here and there in Old Javanese documents.¹⁶⁴

The xylophone called *galunggung*¹⁶⁵ will be discussed shortly.

VAN DER TUUK translates *gending lurwang*¹⁶⁶ as "a kind of *gambang* used at Klungkung". This is probably a misinterpretation. I believe that VAN DER TUUK was not personally acquainted with South Bali;

¹⁵⁶ Swg. II 16.

¹⁵⁷ Kunst VI pp. 120 ff. and figs. 21 and 58.

¹⁵⁸ M.G.G. vol. VI col. 1197.

¹⁵⁹ Kunst V pp. 22 ff. and Plate IV fig. 7.

¹⁶⁰ M.G.G. vol. VI col. 1187.

¹⁶¹ According to Sachs (see above p. 69) this word designates a type of signal-gong in South Borneo. Could it be that the link between a bamboo-key instrument and a bronze gong was a single suspended bamboo slab — in other words: a *kenṭongan*? One argument in favour of this possibility is the name *kenṭongan* itself, which in Java denotes a bamboo slit-drum but in Bali refers to a small gong.

¹⁶² See p. 69 note 126.

¹⁶³ In the Madjakerta region it is called a *kecruk*, in Banyuwangi an *angklung*.

¹⁶⁴ B.K. LXXXI 49, XCVI 16 (according to Teeuw: *garantung*); Kr. B. 69; R.K.

¹⁶⁵ Bulihan 10b; Buwahan E IIIa 3.

¹⁶⁶ KBwb. III 720 s.v. *lurwang*.

therefore his information must have been second-hand. As it is, the rather rare *gendhing luwang*¹⁶⁷ is not a *gambang* but a *gamelan* in which an important function is performed by a *gambang*-like instrument, consisting of two separate parts with bamboo keys, and called *saron*.¹⁶⁸ Another name for this orchestra is *gamelan saron*. Presumably the same orchestra is also called *gong gambang*,¹⁶⁹ as this term cannot be used for the *gamelan gambang*. To think of the *gamelan gambang* might seem plausible enough but, as far as I know, the name *gong* can be used only for a whole *gamelan* when a *gong gedé* or a *kempur* is used at the close of the larger melodic periods. In the *gamelan gambang* a *gong* or *kempur* has never been used.¹⁷⁰

In addition, the name *gambang* itself has come down to us through Old Javanese literature, e.g. several times in the *Malat*,¹⁷¹ the earliest date of which is late Majapahit (14th century).

There is no representation of the actual *gambang kayu* — the most important representative of the Javanese group of xylophones today (fig. 117) — belonging to the Hindu period. Bearing in mind the "wooden slabs" of the ancient Chinese reports, we may safely assume that this instrument was popular during the whole period of the Javanese Middle Ages, as it still is today among both rich and poor.

The xylophone of which we have a number of representations from the Majapahit period is of the unequal-key type, as still used in Bali in the *gambang* or *gamelan gambang*. This ensemble usually consists of four of these instruments together with two metallophones of the kind called *saron* (sometimes *demung*) in Java. From an Old Balinese charter dated 1181¹⁷² we may possibly deduce that these bamboo *gambang*s were then called *galunggang*. In this charter, a *galunggang petung* is coupled with another instrument, the *salundung wsi*, as taxable

¹⁶⁷ Mal.; B.T. 164; U.P.

¹⁶⁸ Cf. Kunst III pp. 386 ff. According to Heyting the *gendhing luwang* is also mentioned in the *Wargasari*. It should be noted that Van Bloemen Waanders (p. 238) described the *gendhing luwang* as an orchestra as early as 1859: "The *gendhing luwang* is played by ten persons and consists of a large gong, three small kromongs (set of horizontally arranged brass cymbals), a tambourine and a few lesser instruments. It is usually played at the 'hembukur' festivities which are held some time after the cremation ceremonies, in honour of the deceased".

¹⁶⁹ B.T. 164.

¹⁷⁰ Cf. Kunst II pp. 129 ff.

¹⁷¹ Mal. XXII, LXI, LXXIII, LXXIX, XCI; B.B. 50, 62; Panji K.N. LXI, LXXI.

¹⁷² The Bulihan Charter. See hereafter note 180.

objects. *Petung* is a kind of bamboo and the unequal-key *gambang* is certainly the most prominent Balinese bamboo instrument. This word *galunggung* appears in another Old Balinese charter — also dated 1181 — again in the company of other musical instruments, this same *salunding wsi* and the *calung* discussed above. The fact that the word now refers to a bamboo *gendèr* with coconut shell resonators¹⁷³ shows that we are indeed dealing with a type of *gambang*, at any rate with a bamboo key instrument.

Furthermore, BRANDTS BUYS IV reports a primitive *gambang* in West Madura, which has five keys and is called *ghalundhang*. According to R. Goris, this word, although not a legitimate derivation from the Old Javanese *galunggung*, is nevertheless a parallel form, as happens not infrequently with onomatopoeic Javanese words of more than two syllables.

The unequal-key *gambang* is struck with two-pronged sticks (*tabuh*), sounding two keys at a time. The fourteen keys are arranged in such a way that those V-shaped sticks always strike a note and its octave. Since the angle of the striking sticks does not permit the spanning of an octave arranged in sequence, this can, of course, be done only by arranging the keys in a special order which at first sight seems somewhat fantastic. Figs. 60, 65 (at 4) and 111 illustrate this feature. Figs. 60 and 61 represent the instruments on the Panataran reliefs.¹⁷⁴ In the terra-cotta statuette, (fig. 65), the player himself is missing, only the xylophone, the sticks and his gracefully shaped hands having survived. In comparison, fig. 111 shows a number of modern Balinese *gambangs*.

The unequal-key bamboo *gambang* is no longer in existence in present-day Java.¹⁷⁵ In Bali it is used mainly in cremation ceremonies and if this was the case in Hindu-Java, which seems plausible, it is understandable that this instrument did not manage to survive the coming of Islam.¹⁷⁶

¹⁷³ Cf. Korn p. 18 (in the English transl. pp. 315-316).

¹⁷⁴ The story represented by the three scenes on this relief has been discussed by several writers, initially by Brandts Buys (Brandts Buys I p. 34).

¹⁷⁵ Though there are other types of bamboo *gambangs*. The author found some at Tulungagung in the *gamelan bumbung* (*bumbung* means bamboo) and in the Priangan Regencies. See also Kunst IX vol. I p. 231.

¹⁷⁶ For particulars see Kunst II pp. 129 ff. and 237; Kunst III pp. 413 ff. — For Javanese and Balinese *gambang* types in general see Kunst IX vol. I pp. 185 ff.

K. Salunding; *gendèr wayang*

As mentioned previously, the existence of *gambang*- and *calung*-like instruments in Java and Bali since the 9th century can be proved. Although the *gendèr* is not as old as that, it still goes back a long way, as will be shown shortly.

When B. J. O. Schrieke returned from a trip to Bali in 1924, he brought back some interesting data. He spoke of a *gamelan selondèng*, a very holy *gamelan* at Bungaya, a *Bali aga* (original Balinese) village near Karangasem, permitted to be played once every three years.

This information came just in time to be incorporated in our book "De Toonkunst van Bali", which in its turn elicited various remarks and additions from the civil service officer L. C. Heyting, then stationed in Bali. Among them was a query about the possible connection between *selondèng* and *salunḍing* which appears in the Wṛtta-sañcaya (before 1222),¹⁷⁷ the Hariwangṣa (c. 1150) and Bhāratayuddha (1157),¹⁷⁸ the Ghaṭotkacāṣraya (c. 1190)¹⁷⁹ and in five Old Balinese charters, three of them dated 1181¹⁸⁰ and the other two 1204 and 1324.¹⁸¹ The word (*a*)*nalunḍing*, used in the Rāmawijaya,¹⁸² is derived from *salunḍing*.

KERN translated *salunḍing* as *saron*, and there was no apparent reason to doubt the accuracy of this translation, although it is not quite clear how he arrived at it.

Meanwhile J. Kats, who spent some time in Bali after Schrieke, was kind enough to gather some more information about the Bungaya

¹⁷⁷ W.S. 93.

¹⁷⁸ H.W. XX 16; B.Y. L 5.

¹⁷⁹ Gh. VII 5.

¹⁸⁰ One of these three was found by Heyting in *désa* Bulihan. Like the other charters from this period, the charter in question was enacted by Çri Mahārāja Haji Jayapangus [1181 A.D.]. In this document (10b) it is laid down, among other things, that two "*ku*" (small Hindu coins) shall be paid by way of "*tikasan*" (tax) if a *galunggang petung* (probably a bamboo *gambang*, as pointed out on pp. 73-74) and a *salunḍing wsi* (an iron *salunḍing*) are in the same precincts.

¹⁸¹ These charters and two charters dated 1181 contain, among other things, an enumeration of the obligations from which certain *désas* were exonerated. One of these is again *tikasan salunḍing*. Obviously there were levies on *gamelans*, and in fact it would hardly be possible to find a more promising object for taxation in an island so rich in *gamelans*. — For the four references where *salunḍing* is mentioned see Buwahan E IIIa 3; Campaga A IIa 6; Campaga C IIb 6; and Pura Kehen C IIb 2/3, respectively.

¹⁸² R.M. VI 15, XII.

ensemble which suggested that this orchestra consisted exclusively of *gendèr*-like instruments.

When in August 1925 I was able to gather much important musicological material during a short period — thanks to the help of the well-known Tjokorda Gdé Raka Sukawati, who was at the time *punggawa* (head of the District) of Ubud — it appeared that there was a second *gamelan* of that kind at Kêngetan (District of Ubud), held in equal veneration and awe. The Kêngetan *gamelan*, however, was not called *selondèng* but *selunding*, and like the Bungaya ensemble it consisted exclusively of *gendèrs* (but without tubular resonators).

Heyting's query about the connection between the word *selondèng* and the Old Javanese and Old Balinese *saluṇḍing* should consequently be answered in the affirmative. In as far as the link exists, the Old Javanese *saluṇḍing* must be seen not as a *saron* (with supported keys) but as a *gendèr* with suspended keys.

This conclusion is not based solely on the fact that the *gamelan saluṇḍing* (to use its apparently correct name) still existing in Bali consists exclusively of *gendèrs*. A close examination in the relevant Old Javanese literature also gives strength to this argument.

In the Wṛtta-saṅcaya the poet, Mpu Tanakung, tries to create an image of supreme loveliness. KERN translates as follows: "At that moment the mountains gave the impression that the trees were their actors and the fine transparent mist was their screen; the hollow bamboos, caressed by the wind, seemed to be the softly murmuring *tuḍungans* (flutes); the calling quails were the *sarons*, alternating harmoniously with the soft echo of the deer; the love-calls of the peacocks were the singing of the *madraka*." ¹⁸³

The mild murmur of the *gendèr*, it seems to me, fits better into the atmosphere of this image than the broad, clearly defined and full sound of the *saron*. Possibly this is just a personal opinion, inspired by the desire to prove the correctness of my supposition.

But it seems to me that the Bhāratayuddha leaves no doubt. There the word *saluṇḍing* is followed by the word *wayang*. *Saluṇḍing wayang* appears here as if *saluṇḍing* were the exclusive *wayang* instrument. In HAZEU's thesis the translation of this passage of the B.Y. text (pp. 11 and 12) reads: "And in the river the frogs were croaking;

¹⁸³ Lwīr mawayang taken gati nikang wukir kineliran himārang anipis/ bung-bung ikang petung kapawanan, ya téka tuḍunganyā muny angarangin/ paksi ketur saluṇḍingan ikā kinangsyani pamangsul ing kidang alon/ madraka ḡabda ning mrak alangö sawang pangidungnya mangrasi hati.

they seemed to represent the *sarons* (sic) of the *wayang* play (as heard in the *wayang* play). The hollow bamboos sounded as the wind played through them; they were like the flutes (*tuḍungs*) accompanying (the play). The *kungkang* concert heard in the mountain ravines was like the songs of the women; the unceasing accompaniment of the grasshoppers seemed like the sound of the *kamanaks*.”¹⁸⁴

The only instrument accompanying the shadow *wayang* in Bali is, in fact, the *gendèr* (usually in sets of two or four), producing the most beautiful music. This ensemble's name is *gendèr wayang* (fig. 116).¹⁸⁵ These *gendèrs*, contrary to all other *gendèrs* in Bali and Java, have ten keys,¹⁸⁶ and such series of ten keys have often been excavated in East Java.¹⁸⁷ This cumulative evidence induces me to assume that

¹⁸⁴ Tekwan ri lwah ikang taluktak atarik sāksāt saluṇḍing wayang/ pring bungbang muni kānginan manguluwung, yékān tuḍungnyāngiring/ geṇḍing strī nya pabaṇḍung i prasamaning kungkang karengwing jurang/ cengeret nya walangkrik atri kamanak tanpāntarāngangsyani.

¹⁸⁵ The verses in the Wṛtta-saṅcaya clearly refer to the *wayang kulit*, the shadow *wayang*. If this *wayang kulit* took its material from the Hindu epics — in other words, if it was *wayang purwa* — the instruments are not used in quite the same way as in modern Bali. In Bali only the *gendèr wayang* — four in South Bali and two in North Bali — is used in this context. It is said that in ancient Kaḍiri flute music and women's voices were used as well (compare Hadiwidjojo's remarks about *mandraka*).

The Bhāratayuddha verses do not necessarily refer to a *wayang purwa* orchestra. *Gendèrs* may have been used formerly, as they are now, in other *wayang* performances, and possibly even without *wayang*. However, as it is likely that *gendèrs* were used primarily for the accompaniment of every kind of *wayang*, the name of *gendèr* (or *saluṇḍing*) *wayang* is quite understandable.

The mention of *kamanak* in the B.Y. verses unmistakably implies dance accompaniment. If these verses do refer to the *wayang*, which is likely, then the poet must have envisaged an ensemble not identical with, but similar to the one which in Bali today accompanies the *parwa* (in Javanese: *wayang wong* when representing the B.Y. legends), and the *wayang wong* in Bali restricted to the Rāmāyaṇa stories. At present this ensemble consists of some *gendèrs*, two small drums (*gupek(an)*), a small gong (*kajar*), small cymbals (*riṅcik*), a *kempur*, a set of *kemanak* (*gumanak*) and voices.

¹⁸⁶ Pictures of *gendèrs* — in this case apparently with seven keys — are again provided by some of the statuettes found in the Majapahit soil (fig. 65 b in the foreground).

The other kinds of *gendèr* have either 5, 6 or 7 keys, or 13, 14 or 15 keys. (The *gendèr* at the *kabupatèn* of Madjakerta with 16 keys is a rare exception).

¹⁸⁷ Interval-measurements of four of these “fossil” *gendèr*-key series are given in Kunst III pp. 476 and 477. The scales belong exclusively to the *sléndro* series, as might be expected from instruments accompanying the *wayang purwa*. These key-series were registered under Nos. 1051, 1051b, 1051c (Cat. I p. 253 and Korte Gids p. 71) and 5829a-j. The same applies

saluṇḍing wayang must have been synonymous with *gendèr wayang* and makes it probable that the *gendèr* was well-known as early as 1157.¹⁸⁸

In Bali today *gendèr wayang* sets are fairly numerous. On the other hand, the *gamelan saluṇḍing* is almost exclusively confined to the villages of the *Bali aga* (the original Balinese), a community which has tried to stay aloof from both the Hindu and the subsequent Old Javanese influence.

Thanks to the late Walter Spies we know of a few more *saluṇḍing* orchestras in addition to those already mentioned. In a letter dated April 22, 1928, this painter-musician told me that in the *Bali aga* village of Tnganan he had found three *gamelan saluṇḍing*, designated locally as the northern, the central and the southern. Their keys were made of iron (*wsi*) and were suspended as in a *gendèr*. There were, however, no tubular resonators. Later, Spies found some more *saluṇḍing* orchestras in other *Bali aga* villages, namely in Bungaya, Bugbug and Selat. About the Tnganan *saluṇḍing* he writes: "Aussehen tut er alsob er vom Nilpferd oder einem Karbau abstammt, so klobig und plump — aber klingen tut es wie die tiefsten schönsten Kirchenglocken." ("It looks as if it were a descendant of a hippopotamus or of a buffalo, so lumpish and unwieldy is it; but its sound is like that of the deepest and finest church-bells.")

L. Saron

Finally the *saron*. As proof of its presence in the Kaḍiri realm of Jayabhaya, W. S. and B. Y. are eliminated because *saluṇḍing* is identified as *gendèr*. However, its appearance on a Barabuḍur relief (fig. 19)¹⁸⁹ proves that it existed as early as 824 A.D. Moreover, a

to a *gendèr* series excavated near *kampung* Widjang, *désa* Karangtalu, District of Karangdjati, Regency of Blora which was registered under No. 554, Djak. Mus. musicological department.

¹⁸⁸ R. N. g. Ranggawarsita apparently knew of the existence of the word *saluṇḍing* through traditional channels. According to Groneman (p. 49), this Solo *pujangga* (chronicler and expert in Javanese tradition [*adat*]) mentions in the second volume of the manuscript (p. 37) of his "Pustaka Raja Purwa" (The History of the Ancient Kings, about 1850) a *saluṇḍi* which, according to him (or is this Groneman's opinion?) should be identified with *kempul*. (At the same time he talks about the instrument *garantang*, which is identified — and this time correctly — with *gambang*.) Sachs I p. 329b gives *salunding* as a Dayak signal flute without finger holes and he quotes as his source Grabowski p. 105.

¹⁸⁹ Bar. Ib 98.

solidly built *saron demung* key series has been excavated in *désa* Bebet,¹⁹⁰ District of Pelem, Badjanegara Division, Residency of Rembang.

Furthermore in the Sriwedari Museum at Solo there are three one-octave *saron* sets (*demung*, *saron barung* and *saron panerus*) which have been excavated there. Judged by their tuning they belonged to the same *gamelan* as a *gambang gangsa* which is also in this museum. These instruments which are remarkably well preserved (in contrast to the Rembang *saron* key series mentioned earlier) do not give the impression of being very old.

The word *saron* appears in literature, as far as I know, only rarely and at a fairly late date.¹⁹¹ There is also a fair chance that it refers to a *gambang* with bamboo keys (see p. 73). It should be kept in mind that present-day Bali, to a greater extent than Java, has successfully preserved the old forms and refers to these metallophones not as *saron*¹⁹² but as *gangsa jongkok*.¹⁹³

It seems clear that the instrument with the horizontal metal keys formerly had other names. We can be certain about only one of them, *salukat*,¹⁹⁴ which slightly modified as *selokat*¹⁹⁵ still refers to a

¹⁹⁰ Djak. Mus. Cat. I p. 253: No. 1051a. This series consists of a complete seven-tone *pélog* octave and the next higher, but incomplete octave from which the *pélog* and *barang* keys are missing. For the intervals see Kunst III p. 489, Table XI under No. 1. A modern *saron* is shown on our fig. 118.

¹⁹¹ B.B. 50, 62; Dj. pur. and U.P. In the latter poem the *saron* appears in the enigmatic combination of *caruk saron*. For the word *caruk* which occurs in the Ranga Lawé (VIII 29) Juynboll II gives (with a question mark) the meaning of "changing". Therefore *caruk saron* could possibly suggest a kind of composition in which the *saron*-part is treated in a special way. In the KBwb. I 591 s.v. *caruk* II this word is translated as "name of a composition". At this place the word *gérong* is referred to (KBwb. IV 702), where the word *anggérong* is translated as "to sing". In a quotation of a reference from the Unḡakan Pangrus we find besides the word *caruk saron* the words *gendḡing luwang*, *turas pagérong*, *semar pegulingan* and *sakati*, three of which are the names of *gamelans* in Bali. Van der Tuuk (KBwb. IV 770 s.v. *guling*) considers *semar pegulingan* to be a special composition. It is not clear whether in his opinion the other names also indicate compositions. I for my part am not quite convinced that *caruk saron* refers to a composition.

¹⁹² There is one exception in northern Bali called *sesaron*, a multi-octave variety which in southern Bali is usually called *coring* or *curing* (in Java *gambang gangsa*).

¹⁹³ Cf. Kunst II pp. 74/75.

¹⁹⁴ Sum. XXIV 7; A.N. XXX 1; Mal. XC; 36 (version *b*); Panji K.S. (see Poerbatjaraka II p. 8); R.L. VII 132; H.W. XIX 6.

¹⁹⁵ See also Sachs I p. 342a.

saron, viz. the soprano *saron* in the Principalities, usually called *saron panerus* or *peking*. Both *selokat* and *peking* are also the names of a species of bird which is otherwise known in Java as *petingan* or *glatik* and in Bali as *prit* — the *Munia oryzivora*. The high-pitched sound produced by both the instrument and the bird is the obvious connection between the two.

We have already seen above (see pp. 52, 55-56) that the word *curing*,¹⁹⁶ which in present-day Bali is used for a *saron*-like instrument, in Hindu-Java had other meanings.

There are possibly more names for *saron* among the series of words referring to musical instruments which have not yet been identified.¹⁹⁷ In this connection the word *sangghani* is perhaps of interest (pp. 86-87).

In JUYNBOLL II p. 401 *s.v.* *barung*, the word *ambarung*¹⁹⁸ is translated by "playing the *saron*". It is true that in Java the combination *saron barung*¹⁹⁹ is very common as a name of one of the four single-octave forms of the *saron*-group, but the word *barung* by itself does not indicate a musical instrument. Probably in Old Javanese literature *barung* did not have that meaning either. The occurrence of *ambarung* in the A.P.²⁰⁰ seems to suggest a different interpretation: "*munya kekèloran, lawan gong sakati ambarung*", i.e. "the *kekèloran* sounds, and the *gong sakati* 'ambarung'". The word *kekèloran*, to be discussed shortly (p. 84) probably refers to some *gamelan* or other. Keeping in mind KERN's translation of *mabarung* in the Nāgarakṛtāgama (LIX 7) as "accompanying"²⁰¹ and JUYNBOLL's translation (JUYNBOLL II p. 401) for the derived forms *binarungan*²⁰² and *mabarungan*²⁰³ as "accompanied", I suppose that *ambarung*, like the other derivations of *barung*, not only in the A.P. but also in the C.P. and other texts indicates some kind of accompaniment or of playing together.²⁰⁴

¹⁹⁶ Cf. above p. 52 note 23.

¹⁹⁷ See Chapter VI.

¹⁹⁸ For which he gives the reference C.P. 14.

¹⁹⁹ See Kunst IX vol. I pp. 165 ff.

²⁰⁰ A.P. XIV 3 (KBwb. II 240 *s.v.* *kèlor*).

²⁰¹ According to R. L. Mellema, the same interpretation applies to Dpt. II (KBwb. III 336): *kinon anamépa mangkꦧambarung*, i.e. "he was ordered to play the *samépa*, and on this instrument he accompanied".

²⁰² T. V 102; Sum. XXV 4.

²⁰³ A.W. V 9.

²⁰⁴ Derivations of the word *barung* occurring several times in the Sutasoma in J. Ensink's opinion all have the meaning of "together with" or "vieing, competing with". (See Table A note 22).

One should not be surprised that the poet in the A.P. allows two *gamelans*, probably different in composition as well as in tuning, to play together. Until World War II, many orchestras of different tuning played simultaneously at big festivities in the *kratons*. In the large arenas surrounded by walls, the effect was by no means cacophonous; on the contrary, it was joyful and impressive.

VI

UNIDENTIFIED NAMES OF INSTRUMENTS AND ORCHESTRAS

In the previous chapters it has been shown that the majority of the Old Javanese instruments on the temple reliefs were identifiable, and that a fairly large number of names of instruments and orchestras could be placed in their correct context. This was done by means of comparison, in part with Sanskrit names and with Indian and Indo-chinese instruments, and in part with names existing in the Archipelago. This proved impossible with regard to a number of words, and these are listed here in alphabetical order, with their references in literature.

<i>Angkup</i>	O.J.O. XXIII 3.	
<i>bangbang</i> (<i>bongbong</i>)	Hrsw. I 66 b; Mal. 305, 412; Was. VI; Kr. (<i>bong-bong</i>).	
<i>boñjing</i>	Sut. LXXIII 15b; Batuan IIb 3.	} see hereafter under <i>roñji(ng)</i> and <i>taroñji</i>
<i>buñjing</i>	Bebetin A I, IIb 5.	
<i>bwajing</i>	K.K. 73.	
<i>burañcah</i>	K.K. 73.	
<i>gérong</i>	R.L. VII 132; U.P. (<i>turas pagérong</i>); Mal. LXXXI; 26 (version <i>b</i>), 13 (version <i>c</i>); Was. II 102; P.A. I.	
<i>kekèloran</i>	A.P. XIV 3; B.T. 164; Wargasari.	
<i>ketur</i>	Dj. pur.; Hrsw. IV 102a, VI 49a; T. V 105, 106.	
<i>mūddhama</i>	Wir. 85.	
<i>roñji(ng)</i>	B.K. LXXXV 12.	
<i>salangsang</i>	R. XXVI 24.	

<i>samépa</i>	Dpt. II; Ww. I 31, 32, IV 50; R.L. VII 132.
<i>sangghani</i>	B.K. XCVIII 2; R. XVI 12, XXIII 72.
<i>sarḅ</i>	Sembiran A I, IIb 4.
<i>sarungan</i>	Sembiran A I, IIb 4.
<i>taroñji</i>	B.K. LXXXIII 1.
<i>wāditra</i>	Wir. 11, 96; J.D. 76/77; B.P. 140.

The above words will now be discussed in order.

It is not certain that *angkup* and *salangsang* refer to musical instruments. In present-day Javanese the word *salangsang* means "funnel-shaped object" and has no musical meaning.

Bangbang (*bongbong*) can be said to be a typical example of an onomatopoeic Indonesian word, possibly referring to a gong or a *bonang*-shaped instrument, but more likely to a *gambang*- or *calung*-like instrument with round bamboo keys. In any case it was an instrument which was struck, as indicated by the words *anabuh bongbong* (*bangbang*) *kalih-kalihan*.¹ In connection with this R. Goris says that *kalih-kalihan* could be either a further qualification of the general name of the *bangbang* species, or — and this seems more likely to me — an explanation of how the *bangbang* should be played. It possibly means "taking turns; alternately" or "on both sides". In the latter case, however, the *bangbang* would have to be a drum, which is not very likely.

According to R. L. Mellema, *kalih-kalihan* (in *ngoko* speechstyle: *keloron*)² should be translated "as a pair", which could point to the custom of playing two *bangbangs* simultaneously. As further references for *kalih-kalihan*, VAN DER TUUK gives Malat 160, 161, 259 and 260³ and he says "of a musical instrument". So the key to the interpretation of *bangbang* may well lie in the Malat.⁴

The word *burañcah* which is found only once, is left untranslated by KERN and in KBwb. IV 895 *s.v.*

¹ Kr.

² Cf. Pigeaud, Woordenboek, p. 181.

³ KBwb. II 231 *s.v. kalih* II.

⁴ Van der Tuuk (KBwb. IV 1084) apparently puts *bangbang* on a level with *gendèr*, for reasons unknown to me (possibly on grounds of some Balinese interlinear translation). In any case this author, too, considers it to be a key instrument.

In his summary of the contents of a Malat manuscript POERBATJARAKA⁵ equates — with a question-mark — *gérong* with *terbang*, the tambourine, presumably on the grounds that it accompanies singing and is subsequently flung down. Further it may be noted that in the Uṇḍakan Pangrus⁶ the name *gérong* is contained in the as yet unexplained term *turas pagérong*.

The term *gérongan* refers to choral singing with *gamelan* accompaniment in the Javanese Principalities. VAN DER TUUK (KBwb. IV 702 *s.v.* *gérong*) translates *anggérong* with 'to sing?'.⁷

Kekèloran or *kakèloran* appears to be the name of an ensemble, since in the Bagus Turunan, the Wargasari and in the Arjuna Pralabda⁷ the word is used in the same category as two other names which both indicate orchestras, *viz.* *geṇḍing luwang* and *gong sakati*.⁸ It should be noted that *kèlor*, from which the word is derived, is the name of a plant.

In the Jayapurāṇa the *ketur* is mentioned along with the *saron* and the *baḍahi* (*paḍahi*), in other words, along with a melodic and an agogic instrument. It is therefore very likely that it is a punctuating instrument, in which case it would be a single sounding kettle (see pp. 61 ff.). In the smaller and less sophisticated ensembles, for instance in the Balinese *gamelan arja* and *gamelan gambuh*, the East Javanese (or is it Madurese?) *gamelan saronèn* and others, this instrument nearly always has the task of determining the phrasing. The Balinese equivalents of this word in another sense — *pupuh*, *geṇḍing*⁹ — point in the same direction. Originally *ketur* seems to have referred to this phrasing instrument. From this function developed, via the melodic phrase, colon and verse, the meaning of *pupuh* as *geṇḍing*, song or (nuclear) melody.

An analogous confusion of the concepts phrase and phrasing-element often occurs. The Greek terms "*komma*" and "*kolon*", originally meaning "smallest phrase" and "part of a sentence" (or "line of a stanza") respectively, are used by grammarians for the separation signs dividing the sentence into its component parts. Later "semi-colon" is

⁵ Poerbatjaraka II p. 312.

⁶ See our Table B p. 116.

⁷ Wargasari; B.T. 164; A.P. XIV 3.

⁸ Cf. above pp. 72-73 and notes 166-168, pp. 79-80 and note 191.

⁹ T. V 105, 106 (KBwb. II 158 *s.v.* *ketur* and IV 263 *s.v.* *pupuh*); cf. also Hrs. IV 102a, VI 49a.

used as the technical term indicating the intermediate break in a sentence. In the same way the 17th-century Dutch language uses “*zinsnede*” (= cut of a sentence) in the sense of “colon”, and “*snee*” (= cut) in the sense in which we use “comma” nowadays. During the same century the terms *periodus* and *punctum* are used indiscriminately to denote the sentence as a whole.¹⁰ The same happens in the Javanese language. *Pada* means metrical foot and strophe as well as the punctuating sign which indicates the end of the stanza.

The fact that *mūddhama* — in its one solitary reference — appears as part of a small orchestra consisting of *bangsi* (bamboo transverse flute), *tāla* (cymbals) and *paṇarwa* (a drum), does not get us much further. The ensembles on the Barabudur reliefs, in which these three instruments are found, have as their fourth member the small goblet-shaped cymbals. As I have tried to establish, however (p. 50), these would have been called *tuwung* (and presumably *curing* too; see p. 52). Could we see in *mūddhama* a third name for these cymbals? This is certainly not an impossibility considering the large number of names (in the same place and at the same period) sometimes given to a widespread and popular instrument throughout these islands — e.g. the many names for the highest-pitched *saron* and for the single kettle (see pp. 78 ff. and 61 ff.).

Roñji and *taroñji*, appearing in the Bhomakāwya, probably both refer to the same instrument. For *roñji* KBwb. I p. 780 reads *roñjing*. GORIS¹¹ suggests identification of these instrument-names with the name *boñjing*¹² or *buñjing*, which appears in an Old Balinese charter and which, according to the context, refers to an instrument. He links them with the present-day Balinese word *goñjing* which means “to shake”. He wonders whether these instrument-names perhaps refer to the *angklung*, which is shaken, and which is also found in various places in Bali as part of the *gamelan angklung*¹³ — the ensemble named after it. As long as no other name for the *angklung* is found in Old Balinese or Old Javanese literature, it seems to me that GORIS’ assumption is an excellent working hypothesis. The name *bwajing* in the

¹⁰ Greidanus p. 72 note 3 and *passim*; Encyclopaedia Britannica s.vv. *comma* and *colon*.

¹¹ Goris II vol. II p. 226.

¹² This form also in Sut. LXXIII 15b (KBwb. IV 1040); but Juynboll II p. 410 translates it as “name of a manner of singing”.

¹³ Kunst II pp. 103 ff.; McPhee I.

Kuñjarakarna may possibly be identified with the names *boñjing* and *buñjing*.

It is not possible to determine with any certainty which instrument is meant by *samépa*. On the basis of translations of passages of Old Javanese literature procured by R. L. Mellema the following conclusions may be drawn:

1. That sometimes an ensemble contained more than one *samépa*.¹⁴
2. That one of the uses of the instrument was to accompany the recitation of *kidungs* and *kakawins*.¹⁵
3. That *samépa* could well refer to a bowed stringed instrument (most likely a *rebab*).¹⁶ There is a passage which reads: *tumulyanamépa sikepipun angrawit*, i.e. "after that he played the *samépa*; his touch was delicate (exquisite)". This phrase calls to mind a passage in the Centini (Canto 276, str. 5 ff.), in which a courtier's accomplished performance on the *rebab* is described in full detail.¹⁷
4. That the *samépa* was not at that time an integral part of the *gamelan*, otherwise the Rangga Lawé passage¹⁴ just quoted would not have mentioned the *samépa*-players separately from the *gamelan*-players (*niyaga*).

The fact that it is almost certain that in those days a *gamelan* consisted of powerful sounding instruments only, i.e. metallophones of the *gamelan munggang* type, is another reason why the identification of *samépa* with *rebab* must not be rejected out of hand. However, it cannot be denied that this conclusion is somewhat weakened by the fact that the *panalukat*, i.e. the *salukat*-players, are placed in a third category, because one would suppose that the *salukat*¹⁸ was already at that time one of the accepted instruments of the *gamelan*.

The instrument to which *sangghani* refers cannot be deduced from the three references in which it is mentioned. The name, however,

¹⁴ Ww. I 31: *asanding samépa kakalih*, i.e. "having next to him two *samépa*". Perhaps one for the *pélog*- and one for the *sléndro*-music? — R.L. VII 132: *punang paniyaga, panamépānalukat*, i.e. "the *gamelan*-players, the *samépa*-players and the *salukat*-players".

¹⁵ Dpt. II: *kinon anamépa mangkyambarung, sinamipèng kidung kakawin*, i.e. "they were ordered to play the *samépa* in accompaniment of the *kidungs* and the *kakawins*".

¹⁶ Ww. I 32. (See KBwb. III 336 s.v. *samépa*).

¹⁷ Kunst IX vol. I pp. 224 ff.

¹⁸ Cf. above p. 79.

indicates that it must have been a “glass-instrument”, and one might consequently take it to be a glass idiophone.

Nowadays one finds in various places in Java small ensembles called *gamelan senganèn*,¹⁹ mainly consisting of *saron*-shaped instruments with glass keys. Apparently people were equally amused by that kind of fanciful invention a thousand years ago.

In his “Prasasti Bali”²⁰ GORIS mentions another two previously unknown instrument-names — *sarṇb* and *sarungan* — which are found in one single instance in the Sembiran Charter A I (IIb 4) dated 922 A.D.²¹ It is not clear to which instruments they refer.

The large Petersburg Sanskrit dictionary gives for the meaning of *vāditra* (O.J.: *wāditra*): musical instrument. Whether this is meant as an accurate equivalent or whether further details were not known is left to conjecture. The Sanskrit “*vad*” means “to speak”, but also “to sound”. *Vādyā* is the general designation for instrumental music, and *vāditra* is consequently a normal term to designate an instrument.

None of the Old Javanese references available gives any clue to a more clearly defined meaning of the word. In the Old Javanese version of the Mausalaparwa²² the sound of rushing water is compared with that of *tūrya* and *wāditra*. In the Wirāṭaparwa the word *wāditra* (in *sarwawāditra*: all *wāditrās*) is once linked with *ṣaṅgkhalaha*²³ and another time²⁴ it is said of women of noble birth that they received instruction in *gīta-nṛta-wāditra*, i.e. song, dance and *wāditra*.

If in the passage of the Mausalaparwa *wāditra* can refer to a musical instrument, then the same must hold true for *tūrya*.²⁵ If, however, the interpretation of *tūrya* is “a trumpet with one loop”, then *wāditra* should also be given a more precise and definite meaning.

Because of the comparison with the sound of rushing water and of its position next to *tūrya* one should also take it in the sense of a wind instrument. This interpretation is supported by Wirāṭaparwa 96 where *wāditra* is again found next to wind instruments (*ṣaṅgkhalaha*). The

¹⁹ Cf. Kunst IX vol. I pp. 278 and 281.

²⁰ Goris II vol. II p. 305.

²¹ See our Table A.

²² J.D. 76/77.

²³ Wir. 96.

²⁴ Wir. 11.

²⁵ Cf. above p. 31 note 43.

etymological sense is in no way opposed to its identification with a wind instrument.

The passage Wirāṭaparwa 11 does not seem to agree with this interpretation. How could a wind instrument be suitable for noble ladies to play? And this leads me to propose that *wāditra*²⁶ could perhaps be explained as “instrument accompanying recitation”. This is also in agreement with an example given in the Bhīṣmaparwa (referred to in the present book as B.P.) p. 140, which runs: *inuyuyu ring gītawādatra* (KBwb. I 343 s.v. *ūyu: gīta wāditra*) *paṭaha munda mahasara*, i.e. “gently rocked by the sweet tones of song, *wāditra* and the drums called *paṭaha*, *munda* and *mahasara*”. For voices, strings and drums form the most popular combination in both ancient and modern India. It seems reasonable to assume that this was also the case at the courts of the Central and the early East Javanese periods which were still fairly close to the culture of India.

According to K. V. Ramachandran, however, *vāditra* is synonymous with *vādya* which should sometimes be translated as instrumentation.

Undoubtedly, and of necessity, the picture of the world of Old Javanese music as conveyed by these pages is one-sided and incomplete, but I believe that it nevertheless shows how important music was to the people of that period, even from the earliest times. In the Javanese version of the Wirāṭaparwa, dated 996, we already read for instance: “... others accompanied on the *bangsi*, *tāla*, *paṇawa* and *mūddhama*. Some brought a *wiṇārawaṇahasta*, and to assist them they had girl dancers who were skilled at their occupation. According to each person’s taste there was a great variety of performances: the *bhèri* and *murawa* sounded incessantly, mixing with the sound of the *ṣangkha* and *kālaha*

²⁶ In A. A. Bake’s opinion *vāditra* should be taken in the sense of “instruments”. It is true that the Sanskrit root “*vad*” means “to speak”, “to sound”, but, as he points out, the causative form also means “to play an instrument”. The usual word for instrumental music is *vādya*. The compound *gīta nṛtya-vādya* designates the art of *saṅgīta*, viz. vocal music, dance and instrumental music, and the passage in the Wirāṭaparwa certainly means that the noble ladies were instructed in the different varieties of the art of music. The meaning of the other Wirāṭaparwa passage he sees as: “The sound of an instrument like the trumpet, and the sound of ‘instruments’ such as conches and trumpets”. (Perhaps in contrast to the shouts of victory). If the word *wāditra* means musical instruments in general than it is synonymous with the words *unèn-unèn*, *unyan-unyan*, *monyonyan* (all derivations of *uni* = sound; KBwb. I 22/23 s.v. *uni*) and *tontonan* (see KBwb. II 578 s.v. *tonton*). See Kor. 86; Hrs. VI 91a; L. XXXVII 5; S.S. 205; B.B. 50.

(or of the *çangkakālaha*).²⁷ And by the end of the Hindu period it is still the same: time and again we read in the Hikayat Cèkèlwanèngpati about music in army camps, about war music, or music during a journey or dance music. In one place we read of a vocal imitation of *gamelan* music by a number of people (still a very popular skill among young people in Bali).²⁸

In addition, old Chinese travellers and their chroniclers often speak about the music they found in Java. In CHENG Ho's travel stories as recorded by MA HUAN in the Ming period (about 1405 A.D.)²⁹ we find a statement to the effect that "the gamelan consisted of a set of copper drums (of course *bonangs*) and a large brass gong; the wind instruments were made of coconut shells",³⁰ and that the tournaments took place to the sound of rolls on the drums. And in the "Ying-yai Shêng-lan"³¹ (1416) we again read of the occurrence in Java of brass drums and gongs, the blowing on coconut shells, and the beating of bamboo drums.³²



With this the present treatise has come to its close. I shall refrain from afterthoughts: I have made do with whatever material was available. The expert will no doubt see where this book succeeds and where it fails.

I would like to express my thanks again to those who have assisted me so generously with help and information, and who have favoured me with constructive remarks and suggested improvements. Without them this work would never have come to anything like a satisfactory conclusion — the ground it had to cover was too wide and too diverse.

²⁷ Wir. 85 (translation by R. Goris).

²⁸ Cf. Rassers pp. 61, 63, 73, 101, 103, 105, 107, 112, 123, 356 and 357.

²⁹ "De reisbeschrijving van Ma-Huan over de buitenlandse reizen van Cheng-Ho gedurende de Ming dynastie (± 1405 A.D.)." Nagezien en uitgegeven door Feng Cheng-chun. (Med. Chin. Inst. I pp. 164 ff.). Batavia 1937.

³⁰ Ocarinas? Cf. the terra-cotta ocarina found by A. Gall and W. F. Stutterheim on the slopes of the Penanggungan (see above p. 26). Coconut ocarinas are still to be found e.g. in New Guinea.

³¹ Groeneveldt pp. 45 ff. (esp. p. 51).

³² Bamboo zithers? Cf. above p. 23 s.v. *guntang*. Such bamboo idiochords are often called "drums"; the Nias instrument, for instance, is called *göndra hao* = bamboo drum, being played with a small stick.

VII

TABLES

TABLE A CHRONOLOGICAL ORDER OF OLD JAVANESE AND OLD BALINESE MANUSCRIPTS AND CHARTERS IN WHICH INSTRUMENTS AND ORCHESTRAS ARE MENTIONED AND WHICH ARE EITHER DATED OR OF WHICH THE DATES CAN BE DETERMINED ^{1 2}

Day	Year A.D.	Manuscript or Charter (Inscription)	Name of Instrument	Reference
30/4	821	Stone of Kuburan Caṇḍi ³ (K.T.)	paḍahi regang	<i>verso</i> 13 <i>verso</i> 14
	824 ⁴	Barabuḍur	ghaṇṭā	O 131
7/5	827	O.J.O. III	curing	10
18/7	840	K.O. II	curing	6a 4
	842	2nd Çri Kahulunan Charter ⁵ (Ç.K.)	mṛdangga	7, 8
15/6	850	O.J.O. VI	muraba paḍahi	18 24
31/10	860 (?)	Gedangan Charter (G.O.)	curing	Vb 1

¹ This table was revised on March 28, 1948, according to the latest information available at the time — given by the epigraphist Damais — and afterwards again supplemented with information taken from Goris II. — The dates are given in years A.D. [Again revised with the help of Damais I and II, ed.] The abbreviations which have been added to the names of literary works and charters are explained in the bibliographical notes where text-editions are also mentioned.

² When using this table one should remember that we find many of these instruments already represented on reliefs dating from an earlier period, that is on the Caṇḍis Sari, Barabuḍur and Prambanan (dating from c. 750, 824 and the middle of the 9th century A.D., respectively).

³ This inscription has been published by R. Goris in his article "De inscriptie van Koeboeran Tjandi" in T.B.G. LXX (1930), pp. 157 ff.

⁴ See De Casparis p. 182.

⁵ See De Casparis pp. 82, 86 and 91. The text has *maḍaṅgi*, a Prakrit form for Sanskrit *mṛdaṅgin*, a *mṛdangga*-player.

5/1	862	O.J.O. VII	gangsa	<i>verso</i> 12
20/4	873	O.J.O. IX	paḍahi	1b, 2a
3/10	878	K.O. XI	paḍahi	3, 5
27/7	879	O.J.O. XII	paḍahi regang	b 3 b 3
10/10	880	O.J.O. XV	marga = mar(e)ga(ng) paḍahi	
14/7	881	K.O. XIV	paḍahi	b 1
29/3	882	K.O. XV	paḍahi	a 7
	882	Sukawana Charter A I	paḍaha ṅangka	IIa 2 IIa 2
19/10	890 (?)	E 46 ⁶	paḍahi	<i>recto</i> 4
21/4	896	Bebetin Charter A I	bangsi buñjing geṇḍang geṇḍing paḍaha	IIb 5 IIb 5 IIa 4 IIb 5 IIb 5
before 898		O.J.O. CIV	paḍahi	1b 7, 2a 7
	898-928 (?)	O.J.O. LIV	paḍahi	<i>verso</i> 12
	898-928 (?)	O.J.O. CIII	paḍahi	b
8/4	901	O.J.O. XXIII	angkup paḍahi	pl. 3 pl. 6
27/7	902 (?)	Original of Charter ⁷ Klampenborg (Denmark)	paḍahi	<i>verso</i> 3

⁶ An as yet unpublished document on copperplate in the collection of the Djak. Mus. from Balak (Magelang) mentioned by N. J. Krom in Nt.B.G. XLIX (1911), p. 59.

⁷ Van Naerssen p. 84 No. VIII-3. See O.J.O. XXIV and Damais II, B.E.F.E.O. XLVI, p. 45.

27/12	902	Kembang Arum Charter (K.A.)	brekuk paḍahi regang	IIIa 20 I 5, IIIa 20 IIIa 20
11/4	907	O.J.O. CVIII (and also O.J.O. XXVII) ⁸	gaṇḍing paḍahi rāwaṇahasta	b 4 b 4 b 4
21/12	910	O.J.O. XXXVI	arawanasta paḍahi	<i>verso</i> 6, 22 <i>verso</i> 5
	910-919	K.O. XVII	paḍahi	6
4/6	911	Truñan Charter A I	bhangsi gaṇḍing suling	IIa 1 IIa 1 IIa 1
4/6	911	Truñan Charter B	bhangçi geṇḍing suling	Ib 5 Ib 5 Ib 5
11/2	913 ⁹	O.J.O. XXXV	paḍahi	11
13/9	915	O.J.O. XXX	gangsā paḍahi	<i>recto</i> 19 <i>recto</i> 13
12/7	919	K.O. I	brekuk gaṇḍing paḍahi rāwaṇahasta regang tuwung	3, 12 3, 12 3, 12 3, 12 3, 12 3, 12
24/1	923	Sembiran Charter A I	çangka sarḥ sarungan	IIb 4 IIb 4 IIb 4
29/1	925	Pengotan Charter A I	paḍahi	IIb 1
	929-947 (?)	K.O. VIII	curing geṇḍing	3b, 4 4b, 3

⁸ See W. F. Stutterheim's article on a charter from Keḍu in T.B.G. LXVII (1927), pp. 172 ff. (esp. p. 209 with the text of the Keḍu Charter plate A, 25).

⁹ See Goris I.

<i>c.</i> 930 (?)	Original of O.J.O. ¹⁰ CXII	paḍahi	11a
13/7 (?) or 12/8 (?)	931 K.O. VII	tabeh-tabehan	2a, 3
22/12	933 Batunya Charter A I	paḍahi	IIIa 5
10/4	937 (?) O.J.O. XLVI	paḍahi	<i>recto</i> 21
2/5	939 K.O. XXII	paḍahi	3a 6/b 1
10/7	943 O.J.O. XLVIII	bungkuk gaṇḍing rāwaṇahasta tuwung	<i>verso</i> 46 <i>verso</i> 46 <i>verso</i> 46 <i>verso</i> 46
23/2	948 (?) O.J.O. L	curing	5b
7/2	995 Buwahan Charter A	gaṇḍing padaha sangka suling	III 8 III 7 III 7 III 7
14/10 – 12/11	996 Wirātaparwa (Wir.)	bangsi bhèri dundubhi keṇḍang lawuwiṇā mahāsāra maraṇḅangkha mṛdangga mūddhama murawa paḍahi paṇawa ṇangkha (sangka) ṇangkha kahala ṇangkha kālaha ṇangkha kalaha	85 49, 77, 85 77 55 30 52 64, 69 49, 77 85 85 55 85 77, 78, 80, 85 70 85 96

¹⁰ The copy we have dates from *c.* 1350.

			suling	52
			tabeh-tabehan	68, 96
			tāla	85
			wāditra	11, 96
			wiṇā	53
			wiṇārāwaṇa- hasta	52, 85
between 991 and 999		Babi Charter A	çangkha	VIa 2-6
c. 1000		Pūrwādhigama (Pg.) ^{10a}	curing	4
			geṇḍing	4
			kangsi	4
	c. 1010	Ādiparwa (Adip.)	bhèri	203
			geṇḍing	202
			paḍahi	121, 202
6/4	1011	Batur P. Abang Charter A	geṇḍing	VIb 2
			paḍahi	IXb 3
			suling	VIb 2
			tambang	IXb 2
	1015	Charter Frankfurt N.S. ¹¹ No. 21315	curing	<i>recto</i> 2
26/12	1022	Batuan Charter	boñjing	IIb 3
			gaṇḍing	
			(geṇḍing)	IIb 3, IVb 5, 6
			paḍahi	IVb 2
			suling	IIb 3, IVb 3
26/9	1023	K.O. V	curing	6a 3
	c. 1040	O.J.O. CXVIII	garantung	17
	c. 1040	Arjunawiwāha (W.)	barebet	XXIX 5
			bhèri	XXIII 2, XXV 5
			kala	XXIII 2
			kalaçangka	XX 6, XXIX 5
			kangsi	IV 2

^{10a} See KBwb. III 601 *s.v.* *wajana*.

¹¹ See Van Naerssen p. 78 No. VII-3.

			mredangga	XX 6, XXIII 2, XXV 5, XXXI 1
			murawa	XXIII 2, XXIX 5
			padahi	XVI 7
			sundari	I 15
			tabe-tabeahan	XXVIII 13
			wiṇārāwaṇa	XXXI 1
	c. 1050	Gobleg Charter (Pura Batur) B	geṇḍing	VIa 6
18/1	1059	Br. I pp. 607 ff.	geṇḍing	5b
			suling	5b
10/8	1065	Br. II pp. 49 ff.	geṇḍing	9b
			suling	9b
	1065	Br. I pp. 613 ff.	paḍahi	2b
5/5	1071	Pandak-bandung Charter	busya	Vb 1
			geṇḍing	IIIb 5, Va 5
			sangka	Vb 1
			suling	IIIb 5, Vb 1
	The end of the 11th century	Br. I pp. 619 ff.	busya	5b
			geṇḍing	5b
			suling	5b
	1100	O.J.O. LXV	paḍahi	1b 14
	c. 1150 ¹²	Hariwangṣa (H.W.)	curing	XXI 2, XXVII 6
			garantung	
			(garantang)	XXVII 6
			geṇḍing	XXVII 7, XXXII 7, XXXVI 7
			gubar	XXXII 7, 12, 15, XXXVI 7
			keṇḍang	XXXVI 7
			kangsi	XIX 6, XXVII 7

¹² Date given by Van Stein Callenfels (see Sud. p. 167).

			mṛdangga	XVIII 10, L 8
			paḍāhi	XXXII 10
			salukat	XIX 6
			saluṇḍing	XX 16
			çangkha	XXXVI 7
			taluktak	XX 16
			tepakani	XIX 6, XXVII 7
6/9	1157 ¹³	Bhāratayuddha (B.Y.)	bhèri	X 3
			curing	IV 14, V 8, XXII 10
			gamel	V 7
			gantang	L 6
			garantung	II 6
			geṇḍing	V 8, XXXVI 8, XLII 1, L 5
			g(h)aṇṭa	V 8, XXI 18, L 7
			gubar	X 9, 16, XXVI 1, XXXVI 8, XLII 1
			gong	XXXVI 8, XLII 1
			kalaçangk(h)a	XXVI 1, XXXIX 2
			kangsi	L 5
			kamanak	L 5
			kukulan	L 6
			mṛdangga	IX 10, X 8, XIX 20, XXVI 1, XXXIX 2, XLIX 6
			paḍahi	X 3
			saluṇḍing	L 5
			çangk(h)a	IX 10, X 3, 16, XIV 16, XV 26, XVI 17, XIX 20, XXXVI 3, LII 8
			saragi	X 16

¹³ See Damais II, B.E.F.E.O. XLIX, p. 54.

			sungu	X 5
			tabe-tabeahan	XXXIX 2
			taluktak	L 5
			tuḍung	L 5
			winipaṇica	VI 1
22/7	1181	Campaga Charter A	saluṇḍing	IIa 6
22/7	1181	Buwahan Charter E	calung	IIIa 3
			galunggang	IIIa 3
			saluṇḍing wsi	IIIa 3
22/7	1181	Bulihan Charter ¹⁴	galunggang	
			petung	10b
			saluṇḍing wsi	10b
	c. 1190	Ghaṭotkacāçraya ¹⁵ (Gh.)	damyadamyan	XXXVI 7
			kangsi	III 5
			saluṇḍing	VII 5
			tabang-tabang	XXXVI 7
			taluktak	VII 5
between 1050 and 1200		Sibang Kadja Charter	paḍahi	Va 1/2
10/5	1204	Pura Kehen Charter C	calung	IIb 3
			saluṇḍing	IIb 2/3
18/11	1205 (?)	O.J.O. LXXVII	curing	<i>recto</i> 17
	c. 1210	Smaradahana (Smar.) ¹⁶	curing	IV 18
			gangsa	XXIX 8
			geṇḍing	XXIX 8, XXXIII 3
			ghenṭa	XXXII 4
			gong	XXIX 8, XXXIII 3
			gubar	XXIX 8, XXX 13,

¹⁴ See p. 75 notes 180 and 181.

¹⁵ See KBwb. II 379 *s.v.* kangsi, II 814 *s.v.* tabang, II 514 *s.v.* dami, II 250 *s.v.* kulutak.

¹⁶ See Damais I p. 10.

			XXXII 4, XXXIII 3
		kangsi	XXIX 8,
		(kangçi)	XXXIII 3
		kala	XXXII 4
		kalaçangka	XXXII 4
		keṇḍang	XXIX 8, XXXIII 3
		kukulan	XXVI 9
		mṛdangga	IV 11, XXXII 4
		çangka	VI 15, XXIX 8, XXXII 4, XXXIII 3
		suling	IV 18
		sundari	XXI 6, XXIII 8
		tabang-tabang	IV 10
		taluktak	XXI 5 (KBwb. II 699 <i>s.v.</i> <i>taluktak</i>)
		titir	XXXI 3
		wiṇa	IV 10
before 1222 ¹⁷	Wṛtta-sañcaya (W.S.)	kangsi	93
		panawa	43
		saluṇḍangan	93
		tuḍungan	93
between 1248 and 1268	Charter Frankfurt N.S. No. 21319 (VAN NAERSSSEN, p. 46 No. III)	geṇḍing	<i>recto</i> 8
		curing	<i>recto</i> 8
c. 1290	Wargasari ¹⁸	geṇḍing luwang kekèloran	

¹⁷ According to Krom II p. 295.

¹⁸ According to L. C. Heyting, who found a Balinese *candra sengkala* (chronogram) giving 1212 *Çaka*. Heyting adds, however, in his letter: "Majapahit is mentioned in the poem, and this state was not founded until 1216 *Çaka*." Further he mentions: "Under purwa one finds in Van der Tuuk (KBwb. IV 107a): Empu Purwa, the proper name of a Buddhist priest who is said to have written the Wargasari. In the Pararaton, however, another Empu

13/12	1323	O.J.O. LXXXIII	curing	8a
			geṇḍing	8a, 8b
30/9	1324	Campaga Charter C	saluṇḍing	IIb 6
24/11	1334 ¹⁹	Rangga Lawé (R.L.) ²⁰	bendé	VII 44
			bhèri	XI 104
			bubar	XI 113
			caṇṭung	
			(cacantungan)	I 1
			curing	VII 79, 132, XII 15
			geṇḍing	III 2, VI 13, VII 79, 94, 132, IX 104, XII 15
			gérong	VII 132, XII 15
			gong	III 2, 16, IV 7, VI 13, VII 79, 94, IX 69, 77, 104, X 31, XI 25, 99
			gubar	VII 79, 94, XI 104
			guntang	VII 132, XII 15
			kendang	III 16, IV 7, X 31, XI 25
			mṛdangga	XI 36, 61, 158
			pèlèrèt	VII 79, XI 113
			salukat	VII 132
			samépa	VII 132
			çangkha	XI 104
			tabe-tabehan	VII 55, 62

Purwa is mentioned, the father of the princess Kèn Dèdes. But he lived about 1144 Çaka = 1222 A.D., and he also was a Buddhist priest. There is a possibility that 1222 was only the year of the copying of the poem and Majapahit an error of the copyist, just as in the Usana Bali, where Empu Kuturan is said to have come to Bali from Majapahit in *c.* 964 Çaka, instead of from Ḍaha or Kaḍiri."

¹⁹ See *Damais* II, B.E.F.E.O. XLIX pp. 55-57.

²⁰ Numbering of the cantos and verses in Berg's text-edition. For VII 132 KBwb. gives: VII 129 (see KBwb. III 336 *s.v.* *samépa* and IV 702 *s.v.* *gérong*).

			tabeh-tabehan	IX 104, XI 14, 125, 152
			tabu-tabuhan	VI 13
			tatabuhan	I 49, III 2, VI 29, VII 31, 36, 66, 82, IX 77, 101, XI 99, 140, 169
			teteg	XI 101
30/9	1365	Nāgarakṛtāgama (Nag.) ^{20*}	bubar	LXVI 1
			gañjuran	LXV 1
			gong	LXVI 1
			kāhalaṇṅka	LXV 1
			kalaṇṅka	LIX 7
			mṛdangga	XXXI 3, LXXXIII 6, LXXXIV 2
			paḍaha	XXXI 3, LV 3, LXV 1
			paḍahi (paḍaha)	LXXXIV 2
			paṭaha	LXXXIV 4
			ṇṅka	LIX 7, LXV 1, LXXXIV 2
			tarayan	LXXXIV 2
			trut	LXXXIV 2
	1375	Arjunawijaya (A.W.) ²¹	kalaha	XLVI 5, XLIX 7
	1375	Sutasoma (Sut.) ²²	bhèri	CXXI 1b, CXXVII 1b, CXXX 3a

^{20*} [Before the conclusion of the editorial work Pigeaud's text-edition and translation of the Nag. became available for use. See List of Abbreviations etc. *sub* Nag., ed.].

²¹ See KBwb. II 233 *s.v.* *kalaha*.

²² Professor J. Ensink of Groningen University who is working on the Sutasoma kindly traced the names of instruments, which in the KBwb. are said to be found in this Old Javanese *kakawin*. The numbering of cantos and verses is according to his text. Where the word *sundari* occurs in this Sutasoma-text Ensink assumes it to be a bird's name, *i.e.* the *cuculus melanoleucus*. See also pp. 26 and 80 note 204.

	boñjing	LXXIII 15b
	garantung	VII 1b
	geṇḍing	LXXIII 15b, LXXX 4b, XCIX 7c, CXLVII 12c
	gong	LXXX 4b, XCIX 7c, CXX 6d, CXXVII 1b
	gong	
	pangarah	LXXXVIII 3c
	gubar	XCIX 7c
	kahala <i>var.</i>	
	<i>lect. : kalaha</i>	XCIX 7c, CXX 6d, CXXI 1b, CXXIII 5c
	kala	CXXVII 1b, CXXX 3a, 11b
	kangsi	IX 4c
	murawa	CXXVII 1b
	ṡangkha	LXXX 4b, XCIX 7c, CXXX 3a, CXXXVIII 7d
	sundarī	XLIII 9d, LV 1d, CXXXVIII 7d
End of the		
14th century	Kidung Sunda (K.S.)	
	bhèri	II 98
	curing	III 40
	ghenṡā	III 52
	gong	II 67, 86, 98, III 69
	gubar	III 55
	guntang	III 40
	kendang	II 98
	mṡdangga	II 128
	pangarah	II 37



	tabeh-tabehan	II 44
	tatabuhan	I 42a, II 48, 90, 137, 200, III 68
Kidung Sundāyana or Kidung Sunda version C (K. Snd.)	bendé	III 13
	bhèrī	III 10
	garantung	III 10
	gong	III 10, 13
	gubar	III 10
	mahāsāra	III 10
	mardala	III 10
	tatabuhan	I 33, III 10

TABLE B ALPHABETICAL LIST OF OLD JAVANESE AND OLD BALINESE
MANUSCRIPTS AND CHARTERS, IN WHICH INSTRUMENTS AND
ORCHESTRAS ARE MENTIONED AND WHICH ARE NOT DATED OR
AS YET DATABLE

Agastyaparwa (Ag.) ²³	rāwaṇahasra	371
	wīṇā	371
Añang Nilartha (A.N.) ²⁴ (15th century)	salukat	XXX 1
	sundari	XXIII 3
Arjuna Pralabda (A.P.) ²⁵	caṇṭung	IX 9
	gong sakati	XIV 3
	kacapi	XVIII 35
	kekèloran	XIV 3
Babad Bla-Batuh (B.B.) ²⁶	cumangkirang	50, 62
	curing	50, 62
	gambang	50, 62
	gending	50, 62
	gendongan	29, 64
	ghaṇṭā	50
	gong	50, 57, 62
	gubar	50
	mradangga	24
	pangarah	25
	saron	50, 62
	smara pagulingan	50
	teteg	25, 62
	tatabuhan	9, 25, 26, 57
	tontonan	50

²³ Ed. by J. Gonda, B.K.I. XC (1933). The text has *wīṇā rāwaṇahasrādi*, "the lute and other chordophones like the *rāwaṇahasra*".

²⁴ See KBwb. III 248 *s.v.* *salukat*, and III 28 *s.v.* *sundari*.

²⁵ See KBwb. I 576 *s.v.* *caṇṭung*, II 51 *s.v.* *kacapi*, II 240 *s.v.* *kèlor*.

²⁶ Ed. by C. C. Berg, Santpoort 1932. Rather late chronicle with Balinisms.

Bagus Turunan (B.T.) ²⁷ (rather late Balinese)	gamelan	164
	geṇḍing luwang	164
	gong gambang	164
	kakèloran	164
	rebab	164
	suling	164
	trawangsah	164
Bhīmaswarga (Bs.) ²⁸ (rather late Balinese)	curing	
	k(a)lènèng sangka	
Bhīṣmaparwa (B.P.) (presumably early 11th century)	bhèrī	10, 12, 35, 72, 130
	keṇḍang	130
	mahāçara (mahasara)	83, 140
	mṛdangga	10, 12, 35, 72, 83, 130
	munda (muṇḍa)	83, 140
	paḍahi	65, 130
	paṭaha	140
	çangkha	10, 35, 40, 72, 83, 130
	wādatra ²⁹	140
	bhèrī ³¹	LXXXII 1
Bhomakāwya (B.K.) ³⁰	curing	LXX 1
	gaṇṭa	XI 1
	garantang	LXXXI 49, XCVI 16
		(acc. to TEEUW <i>garantung</i>)

²⁷ See KBwb. II 259 *s.v.* *kalilit* and also I 359 *s.v.* *añih*.

²⁸ See KBwb. II 236 *s.v.* *klenting* and II 237 *s.v.* *klènèng*.

²⁹ Given is the word *gīṭawādatra* (= *gīṭawādītra*, see KBwb. I 343 *s.v.* *āyu*).

³⁰ According to Van der Tuuk probably dating from *c.* 1100; according to H. Kern (V.G.K. X, 1922, p. 8) dating from the 14th century (see A. Teeuw in his thesis, pp. 4 ff. and p. 59 note 8).

³¹ The word *bahiri* occurring in this text (IV 19) is translated by Teeuw, however, with "bark cloth". See also Kor. p. 30, 126, 164, 223, 224, 317.

	geṇḍing	LXXXII 1, 11, CII 8
	gong	CII 8, 10
	gubar	LXXXII 39, LXXXV 12, LXXXVIII 35, CII 8
	kāhala	LXXXV 12
	kangsi	XL 2
	keṇḍang	LXXXII 11, LXXXIII 1
	kukulan	VII 5, XL 2
	mṛdāngga	XXXIX 21
	murawa	LXXXIII 1, LXXXV 12, LXXXVIII 35
	paḍahi	XXXIX 12, 30, LXXIV 6, LXXXIII 1
	roñji	LXXXV 12
	sangghanī	XCVIII 2
	ṅangkha-kālaha	XXXIX 12
	suling	IV 14
	tabeh-tabehan	LXXXI 26
	taluktak	XL 2
	tarōñji	LXXXIII 1
Brahmāṇḍa-purāṇa (Brh.)	mardala	46
	murawa	46
	ṅangkha-kāla	46
Calon Arang (C.A.) (Old Javanese prose, 16th century)	geṇḍing	VIII, IX, XII, XIII
	gong	VIII, IX, XII, XIII
	kamanak	II, III
	kangsi	II, III
	pèrèrèt	IX, XII, XIII
	sangka	IX
	tabeh-tabehan	IX, XII, XIII

Caṇṭakaparwa (C.P.) ³² (11th century?)	gubar	80, 223
Caturyuga (Catur.) ³³ (Old Javanese prose)	bhèri	5
	gending	5
	gubar	5
	sangka	5
Chronicle of Bayu (Kr.B.) ³⁴ (after 1520)	grantang	69
Cupak (C.) ³⁵	trewasa	
Dangḍang petak (Dpt.) ³⁶ (rather late Balinese)	cantung	I
	pangarah	III 3
	samépa	II
Frankfurt N.S. No. 21320 ³⁷ (charter)	curing	<i>verso</i> 3
	kajar	<i>verso</i> 4
Hariçraya Kakawin (H.) ³⁸	bhèri	LV 5
	curing	VIII 4 (in a different version)
	prèrèt	XXIV 5
Hariwijaya (Hr.) ³⁹	barebet	XII 13
Jayapurāṇa (Dj.pur.) ⁴⁰ (rather late Balinese)	baḍahi	
	ketur	
	saron	
Kidung Adiparwa (Kid.Adip.) ⁴¹	trewasa	

³² See KBwb. II 762 *s.v.* *tempur* and IV 816 *s.v.* *gubar*.

³³ See KBwb. III 755 *s.v.* *lyab*. The numbers of the pages refer to cod. Leyden 3898.

³⁴ See KBwb. IV 668 *s.v.* *garantang*.

³⁵ See KBwb. II 607 *s.v.* *trawangsa*.

³⁶ See KBwb. I 576 *s.v.* *caṇṭung*, I 94 *s.v.* *arah* and III 336 *s.v.* *samépa*.

³⁷ Copy dating from the Majapahit period, from an earlier original (Van Naerssen pp. 58 ff. No. IV).

³⁸ For the meaning of *kakawin* and *kidung* see p. 8 note 38. The names of instruments occurring in this text are mentioned in KBwb. IV 871 *s.v.* *bhèri*, II 102 *s.v.* *kryang* and IV 72 *s.v.* *prèrèt*.

³⁹ See KBwb. IV 900 *s.v.* *barebet*.

⁴⁰ See KBwb. IV 923 *s.v.* *baḍahi*.

⁴¹ See p. 22 and KBwb. II 607 *s.v.* *trawangsa*.

Kidung Harṣawijaya (Hrsw.) ⁴²	bangbang	I 66b
	bhèrī	II 41b, V 53b, 61a
	curing	VI 94a
	gamelan	I 27a, 72a
	ghaṇṭā	IV 91a, V 71b, VI 89a
	ghaṇṭā-ghanti	IV 33a, VI 33b
	gending	II 144a, IV 25b, 30a, 41a, 47b, 53b, V 33b, 45a, 61a, 71a, 75a, 81b, VI 33b, 91a
	gong	II 39b, 144a, IV 25b, 30a, 41a, 47b, 53b, V 33b, 45a, 61a, 71a, 75a, 81b, VI 91a
	gubar	V 33b, 53b, 61a
	guntang	VI 91a
	kacchapī	I 74a, II 38b, 143b, IV 54a
	kendang	II 39b
	ketur	IV 102a, VI 49a
	mahasāra	V 61a
	mṛdangga	II 41b
	pèlèrèt	V 75a
	redep	I 74a, II 38b, 143b, IV 54a
	çangkha	II 41b, V 61a, 75a
	tabe(h)-tabehan	I 79b, II 41a, 41b, IV 40a, V 45b, 53b, 62a, 76b, 94b, 114b, 123a, VI 35b, 70b
	tatabuhan	II 25a, 25b, 44b, V 33b, 61a, 75a,

⁴² Ed. by C. C. Berg, B.K.I. LXXXVIII (1931), pp. 49 ff.

		89a, 99a, 131b
	teteg	V 2a
	tuwung	V 61a
	unyan-unyan	VI 91a
Kidung Pamañcangah (Pam.) ⁴³	curing	II 46
	gamelan	IV 218
	gending	II 46
	gong	IV 79, 213, 253, 257, 262, 312
	kendang	IV 79, 253, 257, 312
	mṛdangga	IV 79, 237
	pangarah	I 109
	tatabuhan	I 110, IV 72, 220, 241, 245, 322, 329
Korawāçrama (Kor.) ⁴⁴	gubar	20
	lāwuwiṇā	128
	murawa	20
	çangkha	20
	unèn-unèn	86
Kṛṣṇāntaka (Krsn.) ⁴⁵	kala-kāla	IX 3
Kṛtabasa (Kr.) ⁴⁶	bongbong (bangbang)	
Kuñjarakarṇa (K.K.) ⁴⁷	burañcah	73
	bwajing (boñjing)	73
	gamel	73
	geṇḍing	73
	tatabuhan	73
Lambang Salukat (L.S.) ⁴⁸	kangsi	XXIV 1

⁴³ Ed. by C. C. Berg, Santpoort 1929.

⁴⁴ Ed. and transl. by J. L. Swellengrebel (1936). To be dated probably before 1635.

⁴⁵ See KBwb. II 225 *s.v.* *kāla* II.

⁴⁶ See KBwb. II 231 *s.v.* *kalih* II.

⁴⁷ According to Krom II dating from c. 1350. The numbering of the references refers to V.G.K. X (1922).

⁴⁸ See KBwb. II 379 *s.v.* *kangsi*.

Lubdhaka (L.) ⁴⁹	rojèh	XVIII 10
	sundari	XXV 1
	unyan-unyan	XXXVII 5
Malat (Mal.) ⁵⁰	bangbang	305, 412
	beḍug	XLIX
	caṇtung	13 (version c)
	cumangkirang	303
	dadamèn	
	gambang	XXII, LXI, LXXIII, LXXIX, XCI
	gamelan ⁵¹	XXIX, XXXI, XXXIV, XXXVII, XLVI, XLIX, L, LXI, LXVIII, LXIX, LXXII, LXXIV, LXXVI, LXXVII, LXXX, LXXXIV, LXXXVI, LXXXVIII, XC, XCIX, CI
	gending luwang	
	gérong	LXXXI 13

⁴⁹ See KBwb. I 768 *s.v.* *rojèh*, III 28 *s.v.* *sundari* and I 22/23 *s.v.* *uni*.

⁵⁰ Of the undoubtedly Old Javanese Malat there are an unlimited number of earlier and later copies extant. These show considerable variations in text. The passages indicated by Roman numbers, refer to Poerbatjaraka II pp. 259 ff. The copy summarized by this author dates from 1759. The other references are taken from Juynboll II and from KBwb. IV 1084 *s.v.* *bangbang*, I 679 *s.v.* *cangkirang*, II 514 *s.v.* *dami*, III 720 *s.v.* *luwang*, IV 702 *s.v.* *gérong*, IV 822 *s.v.* *gong*, IV 652 *s.v.* *guntang*, IV 511 *s.v.* *mandeli*, IV 541 *s.v.* *murawa*, IV 72 *s.v.* *prèrèt*, I 733 *s.v.* *redeḗ*, I 776 *s.v.* *rèyong*, III 248 *s.v.* *salukat*, II 699 *s.v.* *taluktak*, II 666 *s.v.* *teteg*, II 607 *s.v.* *trawangsa*, II 650 *s.v.* *tuḍung*.

⁵¹ It is not clear from Poerbatjaraka's translation which word(s) he translated with the word *gamelan*. In Canto LXXXVI this '*gamelan*' consists of only two instruments and the translation of '*gamelan*' in Canto LXIX seems questionable to me, since in the reference in question the *redeḗ* (= *terbang*, see p. 39) and the *kecapi* are used.

		(version <i>c</i>),
		26 (version <i>b</i>)
	gong	117
	gong pangarah	417
	guntang	CII; canto 2
	(guntang)	
	kangsi	LXXXIV
	kecapi	LXIX
	mandeli	
	murawa	417
	prèrèt	
	redep	XXXIV, LXIX;
		116
	réyong	1
	salukat	XC; 36 (version <i>b</i>)
	taluktak	38, 417
	teteg	159
	trawasa	13 (version <i>c</i>)
	tuḍung(an)	38 (version <i>c</i>)
Mausalaparwa (see J.D.)	ḡangka	71
(11th century?)	tūryya wāditra	76/77
Nawaruci (Nawar.) ⁵²	bhèrī	63, 64
	kālā	63, 64
	mṛdangga	64
	pèrèt	63
	ḡangkha	63, 64
Nītiḡāstra (Ntḡ.) ⁵³	bhahiri	II 11
O.J.O. LIX (charter)	paḡahi	<i>verso</i> 15, <i>verso</i> 19
Pañji Angron Akung (P.A.) ⁵⁴	ḡerong	I
Pañji Kuda Narawangsa ⁵⁵	gambang	LXI, LXXI
(Panji K.N.)	gamelan	II, XV, XVI,
		XXVI, XLV,

⁵² According to Prijohoetomo, editor of the text, to be dated between 1500 and 1619.

⁵³ Ed. by Poerbatjaraka, (B.J. 4), Bandung 1933. According to the editor the original text is to be dated "late Majapahit".

⁵⁴ Poerbatjaraka II pp. 92 ff.

⁵⁵ Poerbatjaraka II pp. 215 ff. See also note 51 above.

	rebab	LXI, LXXII XLII, LXI
Pañji Kuda Semirang ⁵⁶ (Panji K.S.)	calapita gong kangsi keṇḍang k(e)romong rebab salukat	
Pararaton (Par.)	réyong tatabuhan	XXIX 6 (text-ed. KROM) XIX 3, 16, XXII 35 (text-ed. KROM)
Rama Kling (R.K.) ⁵⁷	garantang	
Rama Sasak (R.S.) ⁵⁸	kalèntang	XI
Rāmawijaya kakawin (R.M.) ⁵⁹	bhèri curing kala-kala saluṇḍing	XLII 2 XXXIV 1 XLII 2 VI 15, XII
Rāmāyaṇa (R.) ⁶⁰	bahiri bangsi bhèri gangsa	VIII 100 III 39, VIII 28, 152, XVI 10, XVII 111 XXI 207 XXVI 13

⁵⁶ Poerbatjaraka II pp. 1 ff. — The manuscript this author summarizes is written in the Malay language, but is derived from a very old Javanese version.

⁵⁷ See KBwb. IV 668 *s.v.* *garantang*.

⁵⁸ See KBwb. II 236 *s.v.* *kalèntang*.

⁵⁹ See KBwb. II 224 *s.v.* *kala* III, II 102 *s.v.* *krayang*, III 242 *s.v.* *saluṇḍing*.

⁶⁰ According to Kern dating from the beginning of the 13th century, according to Brandes from the 10th, according to Poerbatjaraka I from the end of the 9th or at the latest from the early 10th century. See De Casparis (in *Prasasti Indonesia* II, p. 287), who is inclined to agree with Poerbatjaraka and adds new arguments in favour of an early date. (Cf. p. 2 note 8). Instead of *mahāsāra*, XXII 3 has *mahāsvara*.

geṇḍing	XXVI 7, 24
gong	XXV 66
kāhala	XII 65
kala	XXII 4, XXIII 72
kala-kala	XXI 207
kāla-kāla	XIX 13
kalaçangka	XXII 3
kangsi	XIX 13, XXVI 23
keṇḍang	VII 3, XIX 13, 15, XXII 3, XXVI 7
kinnara	III 39, VIII 152, XVI 10, XVII 111, XXVI 23
lāwu-wiṇā	III 39, XVI 10
mahāsāra (mahāswara)	XIX 13, XXII 3, XXVI 23
mardala	XIX 13
murawa	XXI 207, XXII 3, 4, XXV 11, XXVI 25
paḍahi	I 62, II 14 VIII 47, XIX 19, XXII 3, 4, 7, XXIII 72, XXVI 7
paṭaha	XIX 13
rāwaṇāsta	XXVI 24
regang	XXII 3
salangsang	XXVI 24
sangghani	XVI 12, XXIII 72
çangka	XIX 12, 15, 19, XXII 3, XXIII 72
suling	XXVI 24
tabe-tabehan	XXIII 76
tuwung	XXII 3
wangsi	XXVI 13

	wīṇā	XII 23
	wīṇa-rāwanaṣṭa	VIII 167
Ratnawijaya (Rt.) ⁶¹	murawa	XX 19
(14th century)	çangka	XX 19
Sang Hyang Kamahāyānikan (S.H.K.)	ghaṇṭā	a 13, a 21, b 20
Sārasamuccaya (S.S.) ⁶²	monyonyan	205
	wéṇu	6
	wīṇā	6
Serat Kaṇḍa (S.K.) ⁶³	gamelan	320, 321, 333
	gong	320
	kecapī	320
	keṇḍang	320
	keṭuk	320
Séwagati (Swg.) ⁶⁴	gagamelan	II 16
	gendèr calung	II 16
	semar paguli- ngan	II 16
Sipat iman akung ⁶⁵	gubar	V 5
(Sip.)	kala (kalā)	V 5
	murawa	V 5
	sangka	V 5
Smarawédana (Smarw.) ⁶⁶	mandeli	14, 15
(the end of the 15th century?)	pèrèrèt	14, 15
	çangka	14, 15
Sorāndaka (Sor.) ⁶⁷	bhèri	III 70, 85
	gamelan	III 148
	gong	III 59, 70, 85
	kendang	III 70

⁶¹ See KBwb. IV 121 *s.v.* *priyaraṇa*.

⁶² See KBwb. IV 644 *s.v.* *ganta*, I 23 *s.v.* *uni*. Pages of text-edition.

⁶³ Poerbatjaraka II pp. 68 ff.

⁶⁴ See KBwb. I 646 *s.v.* *calung* I.

⁶⁵ Fairly recent Balinese, with a sprinkling of Dutch, Arabic and East Javanese words. In KBwb. III 289 *s.v.* *sipat* IV a few remarks about this work are made. See for the names of instruments KBwb. II 225 *s.v.* *kalā* III.

⁶⁶ See KBwb. IV 511 *s.v.* *mandeli*.

⁶⁷ Ed. by E. J. van den Berg, V.K.I. II (1939).

	mṛdangga	III 95
	pangarah	II 127, III 60
	tatabuhan	III 13, 47, 59, 63, 65
Sri Tañjung (S.T.) ⁶⁸	bèri	VII 33, 70
	gamelan	III 32, IV 9, VII 73
	gangsa	V 176
	geṇṭa	III 32
	gong	VII 51
	kajar	VII 33
	keṇḍang	VII 51
	okokan	V 58
	sangka	III 32
	suling	I 7, V 58
	sundari	I 14
	tabe-tabehan	VII 85
	taluktak	I 11, 58
	tatabuhan	V 68
Sudamala (Sud.) ⁶⁹	bhèri	IV 98
	kulkulan	II 17
Sumanasāntaka (Sum.) ⁷⁰	calung	XXVII 8
	gaṇḍing	XXXIX 2,
	(gending)	CXIII 3

⁶⁸ Priyono the editor of the Sri Tañjung supposes that the text has been recorded between ± 1500 and ± 1600 .

From a letter from L. C. Heyting: "If Sidapaksa is the same as Sri Tañjung (because S. is S.T.'s husband), then we should date the S.T. differently. For in the *Gita Presida-paksa* (cf. Kunst II Table IV sub XI 11) I found, while I was living in Bali, the *candra sengkala* (chronogram) 1476

Çaka: rasa muni nirwara wédaning rat
 6 7 4 1

In that case the S.T. would date from the 16th century, namely $1476 + 78 = 1554$ A.D."

⁶⁹ The text published by Van Stein Callenfels probably dates from the 17th or 18th century. As appears from the reliefs inspired by the story of Sudamala on Caṇḍi Tégawangi which dates from 1358, however, this text goes back to a much earlier one, which was already known and popular in the year mentioned. L.-C. Damais found as date of composition of one of the Sudamala texts July 13th, 1559.

⁷⁰ *Kakawin* from the Kaḍiri-period (c. 1050-1222). See Juynboll II and

	garantung	LII 2
	gong	CXIII 3
	mongmong	CXLIX 4
	mredangga	LII 6 (?)
	padahi	CXIII 3
	rojèh	CXIII 3
	salukat	XXIV 7
	çangka	XXI 5, LII 6 (?)
	sundarī	IX 1
	tabang-tabang	LX 1
	tabeh-tabehan	CXIII 3
	tarayan	LII 6 (?)
Swarawyañjana (Sw.) ⁷¹	lāwuwiṇā	10b
Swargārohaṇaparwa (Swarg.)	çangka	40 (JUYNBOLL II 579)
Tantri (T.) ⁷²	baḍahi	I (version <i>b</i>)
	curing	I 5
	geṇḍing	I 5
	kacapi	II 43 (version <i>b</i>)
	ketur	V 105, 106
	lawuwiṇā	V 102
	çangkakalaha	I 79, 81 (version <i>b</i>)
	çrṅga	II 11
	tabang-tabang	V 108

KBwb. I 646 *s.v. caḷung* II (without transl.), II 613 *s.v. tarayan*, IV 668 *s.v. garantung*, I 768 *s.v. rojèh*, II 814 *s.v. tabang*, III 28 *s.v. sundari*, III 405 *s.v. çangka*. Some names of instruments (*gending*, *gong*, *rojèh*, *tabeh-tabehan*, *padahi*) are mentioned in F. H. Van Naerssen's article: "Twee koperen oorkonden van Balitung in het Koloniaal Instituut te Amsterdam", B.K.I. XCV (1937), pp. 441 ff., where (pp. 458-459) he gives a few lines of the *Sumanasāntaka*. The canto which is referred to in KBwb. as CXIII is here said to be CVI or CVII.

⁷¹ See KBwb. III 709 *s.v. lawu* II.

⁷² *Tantri* are called collections of tales in various versions (see KBwb. II 578-579 *s.v. tantrī*). For the words mentioned here reference is made to Van der Tuuk in his KBwb. IV 159 *s.v. paḍahi*, II 233 *s.v. kalaha*, III 107 *s.v. çrṅga*, I 600 *s.v. curing*, II 51 *s.v. kacapi*, II 158 *s.v. ketur*, III 709 *s.v. lawu* II, II 814 *s.v. tabang*.

Tantri Kāmandaka (T.K.) ⁷³	bèri	17
	keṇḍang	29
	madeli	17
	mredangga	17
	paḍahi	17
	parèrèt	17
	çangkha	12, 17
	çangkhakālā	16, 17
	(çangkhakālā)	
	sungu	17
	tabeh-tabehan	29
Udyogaparwa (Ud.) ⁷⁴ (presumably 11th century)	barebet	111
	bhèri	90
	kala-kala	107
	mahāçāra	111
	mredangga	90
	munda	111
	murawa	111
	çangk(h)a	90
	çangkakāhala	111
	tabe(h)-tabehan	90, 111
Uṇḍakan Pangrus (U.P.) ⁷⁵ (<i>kidung</i>)	geṇḍing luwang	
	saron	
	(caruk saron)	
	sakati	
	semar peguli-	
	ngan	
	turas pagérong	

⁷³ Ed. Hooykaas (B.J. 2), Bandung 1931. Page-numbers in square brackets in the edition refer to the pages of the manuscript.

⁷⁴ See KBwb. IV 900 *s.v.* barebet, I 22/23 *s.v.* uni, II 606 *s.v.* triwikrama, II 245 *s.v.* kalakala, IV 541 *s.v.* murawa.

⁷⁵ This poem seems to have been written in 1361 Çaka = 1439 A.D., according to the dating discovered by L. C. Heyting in Singaradja (North Bali) in a privately owned collection of *candra sengkala*. The chronogram in question ran:

Kidung	Uṇḍakan	Pangrus	<i>rupa</i>	<i>rasa</i>	<i>guna</i>	<i>jala</i>
			1	6	3	1

The quotations in KBwb. IV 702 *s.v.* gérong most probably refer to an Uṇḍakan Pangrus manuscript, p. 89.

Usana Bali (U.B.) ⁷⁶	bhèri	
	dèngdèngkuk	
	gem(p)rèt	25, 29
	mredangga	
	sangka	
Uttarakāṇḍa (Utt.) ⁷⁷	bhèri	104
	kala-kala	104
	mredangga	104
	munda	137
	paṇawa	104
	wiṇā	104
Wangbang Widéha (Ww.) ⁷⁸	baḍahi	IV 99
(17th or 18th century)	bhèri	II
	(gong bhèri)	
	caṇtung	I 45, IV 50
	redep	III 69
	samépa	I 31, 32, IV 50
	taluktak	III 29
	titir	III 153
Wasèng (Was.) ⁷⁹	bangbang	VI
(17th or 18th century?)	gérong	II 102
	gong	II 3
	kangsi	XX 29
	pangarah	II 3
	redep	II 102
Wṛhaspati-tattwa (Wrh.) ⁸⁰	tabeh-tabehan	33

⁷⁶ The contents of the Usana Bali have been summarized and parts of the work have been edited by Friederich in T.N.I. IX, 3 (Batavia 1847). See for names of instruments esp. *l.c.* p. 290 and further KBwb. IV 793 *s.v.* *gemrèt*, IV 535 *s.v.* *mredangga* (where we find also *paksi* or *manuk mredangga* = *mrdangga* bird), II 543 *s.v.* *dèngdèngkuk*. In the manuscript used by Friederich the work is dated 1335 *Çaka* (= 1413 A.D.). L. C. Heyting told me: "The Usana Bali, according to Pedanda Ngurah of Blayu, dates from 1411 *Çaka* = 1489 A.D."

⁷⁷ See Juynboll II and KBwb. IV 825 *s.v.* *ganggā*, IV 38 *s.v.* *paṇawa*, III 452 *s.v.* *wiṇā*.

⁷⁸ See KBwb. IV 159 *s.v.* *paḍahi*, IV 871 *s.v.* *bhèri*, I 576 *s.v.* *caṇtung*, III 336 *s.v.* *samépa*, II 699 *s.v.* *taluktak*, I 733 *s.v.* *redep*, II 723 *s.v.* *tapuk*.

⁷⁹ See KBwb. IV 1084 *s.v.* *bangbang*, IV 702 *s.v.* *gérong*, II 379 *s.v.* *kangsi*, I 94 *s.v.* *arah* II, I 733 *s.v.* *redep*.

⁸⁰ Ed. and ann. by Sudarshana Devi, [New Delhi], 1957.

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¹ Ch. stands in the following lines for Charter.

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CVIII	92	T.K. — Tantri Kāmandaka . . .	116
CXII	93	Truñan Ch. A I	92
CXVIII	94	Truñan Ch. B	92
P.A. — Pañji Angron Akung	110	U.B. — Usana Bali	117
Pam. — Kidung Pamañcangah	108	Ud. — Udyogaparwa	116
Pandak-bandung Ch.	95	U.P. — Uṇḍakan Pangrus . . .	116
Panji K.N. — Pañji Kuda Nara-		Utt. — Uttarakāṇḍa	117
wangsa	110	W. — Arjunawiwāha	94
Panji K.S. — Pañji Kuda Semi-		Wargasari	98
rang	111	Was. — Wasèng	117
Par. — Pararaton	111	Wir. — Wirāṭaparwa	93
Pengotan Ch. A I	92	Wrh. — Wṛhaspati-tattwa . . .	117
Pg. — Pūrwādhigama	94	W.S. — Wṛtta-sañcaya	98
Pura Kehen Ch. C	97	Ww. — Wangbang Widéha . . .	117
R. — Rāmāyaṇa	111		
R.K. — Rama Kling	111		

TABLE C CHRONOLOGICAL LIST OF PRESERVED OLD JAVANESE AND OLD BALINESE MUSICAL INSTRUMENTS, AND OF RELIEFS AND STATUETTES ON WHICH SUCH INSTRUMENTS ARE REPRESENTED

Central Javanese Period

	Date	Where to be found ¹	Reproduced in this book under No.:
State of Kalingga	First half 8th cent.	Dièng-temples	1
Çailéndra-period	Second half 8th cent. <i>id.</i> 824	<p>Caṇḍi Sari</p> <p>Caṇḍi Nagasari (elephant bells)</p> <p>Barabuḍiur</p> <p>DB II 5</p> <p>O 1, 20, 24, 39, 48, 52, 53, 72, 101, 102, 117, 125, 131, 132, 137, 143, 147, 149, 151, 157</p> <p>Ia 1, 16, 27, 34, 52, 55, 56, 57, 58, 59, 92, 95, 100</p> <p>Ib 2, 14, 16(?), 19, 20, 28, 35, 39, 70, 83, 91, 92, 98, 100, 103, 114</p> <p>IBa 42, 46, 91, 93, 233a, 266, 293, 294, 300, 318, 322(?)</p> <p>IBb 1, 30, 38, 43b, 51, 65, 66, 89, 90, 111</p> <p>II 1, 10, 18, 25, 32, 36, 54, 55, 63, 97, 105, 116, 118, 120(?), 121(?), 122, 124, 126, 128</p>	<p>2, 3, 4</p> <p>5 6, 7, 8, 9 10, 11 12, 13-14 15, 16</p> <p>17 18 19</p> <p>20</p> <p>21</p> <p>22-23-24 25</p> <p>26, 27</p>

<p>IIIB 40</p> <p>IV 7, 10, 29, 36, 37, 70</p> <p>IVB 42, 75</p>			30 31-32
<p>So-called Restoration Period</p>	<p>c. 850</p>	<p>Prambanan temple-complex</p> <p>A. Ćiwa temple: 1st basement, the outside of the balustrade: Eastside: Nos. a, b, c, e, g, h, l, m, n Southside: Nos. a, c, d, i, l, n Westside: Nos. a, d, j, l Northside: Nos. l, n</p> <p>B. Ćiwa temple: Shawm (no location given) 1st basement, the inside of the balustrade (1st part of the Rāmāyana- reliefs)</p> <p>C. Brahma temple (2nd part of the Rāmāyana-reliefs) Bronze statuette from Tegal (bar-zither) Bronze statuette of Saraswatī with lute</p>	<p>33 34</p> <p>35 36, 37</p> <p>38, 39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p>
	<p>9th century (?)</p> <p><i>id.</i></p>		

¹ The numbers of the reliefs, reproduced in this book, are printed in bold type.

	Date	Where to be found	Reproduced in this book under No.:
Central Javanese ←→ East Javanese Period			
	10th century	Bronze statuette from Ngandjuk with harp	45
	977	Relief from Jalatunda on which a harp	46
East Javanese Period			
State of Kadiri	The end of the 12th or the beginning of the 13th century	<i>Réyong</i> from Kediri	47
State of Singasari	c. 1250	Canḍi Singasari (Bhairawa with clapper-drum)	48, 48a
		<i>Ibid.</i> (Nandi with bell-studded necklace)	49
	c. 1260 (before 1268)	Canḍi Jago : Long-necked lute Shawm (?) <i>celempung</i>	50, 51 50 51
	1287	Bronze slit-drum ² Bronze clapper-drum ³	
State of Majapahit	c. 1300	Canḍi Ngrimbi (<i>réyong</i>)	52
	<i>id.</i>	Canḍi Jawi (double-trumpets)	53

	Principal temple: Shawm, gong one-headed drum gong, <i>kemanak</i> large gong	55 56 57 58
	Déwi Çrī with <i>çangka</i> Nāga temple (detail) (<i>ghanṭa</i>) <i>Peṇḍapa</i> -terrace (1375): bamboo <i>gambang</i> <i>réyongs</i> , cymbals (?)	59 60, 61 62
c. 1358	Caṇḍi Tégawangi (drum)	63
14th century	Slopes of the Penanggungan (East Java) (N. Indian <i>bīn</i>)	64
The end of the 14th century	Site of Majapahit (div. terra-cotta statuettes) <i>Ibid.</i> waisted drums (?)	65, 65a, 65b, 66 67

Central Java

	Caṇḍi Sukuh: shell-trumpet gong	68 69
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Finally a large number of bronze instruments, not dated, found in the soil or in river-beds, as well in Java as in Bali, to wit:

various kinds of gong	70	<i>kakhara</i> and ring- <i>ghanṭa</i>	71	prayer-bells	72
<i>keñtongan</i>	73	pellet-bells	74	small and large bells	75-79
kettles of the <i>réyong</i> type		<i>gendèr</i> -key series		<i>kemanak</i>	80
earthenware ocarina	81	stone objects imitating <i>bonang</i> -kettles (?)	82		

² Djak. Mus. No. 5967. ³ Djak. Mus. No. 5960.

LIST OF ABBREVIATIONS AND OF BIBLIOGRAPHICAL NOTES ¹

A

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B

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¹ In the alphabetical order the ç comes after the s.

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- Swg. — Séwagati. Balinese poem, see KBwb. III 226 *s.v.* *séwagati*, and Juynboll V, pp. 132-134.

Ç

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T

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¹ In this index also are registered the names of areas and places where the instruments are found, the temples and statue(tte)s on which they are depicted and the names of deities and historical and legendary persons with whom they are connected.

Indonesian words are not only recorded in the spelling used in this book but also in the traditional way as was the case in the first edition in Dutch. In the alphabetical order the ç comes after the s.

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REPRODUCTIONS

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Fig. 1. Relief from the Dièng-plateau (1st half 8th century)
Gaṇa with bells (*Photo O. Herz*)



Fig. 2. Relief on Caṇḍi Sari (2nd half 8th century)
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Fig. 3. Relief on Caṇḍi Sari (2nd half 8th century)
Bodhisattwa with three-stringed lute
(*Photo O.D.*)



Fig. 4. Relief on Caṇḍi Sari (2nd half 8th century)
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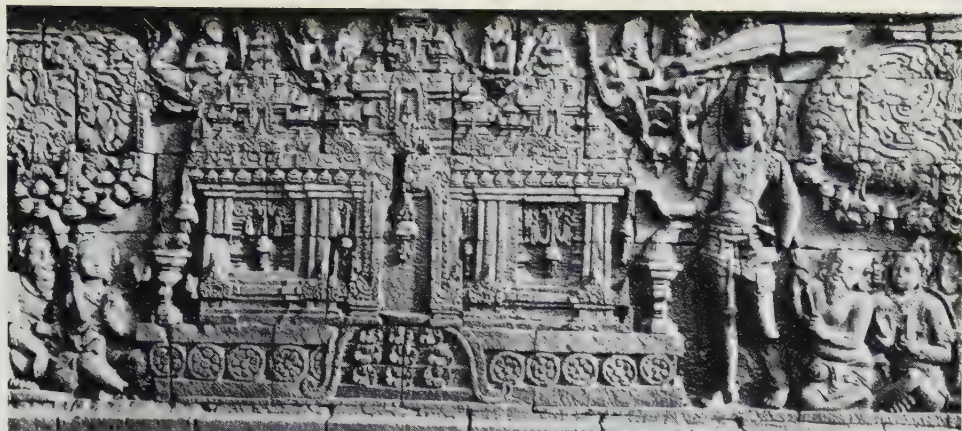


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(*Photo O.D.*)



Fig. 39. Prambanan, relief Çiwa temple
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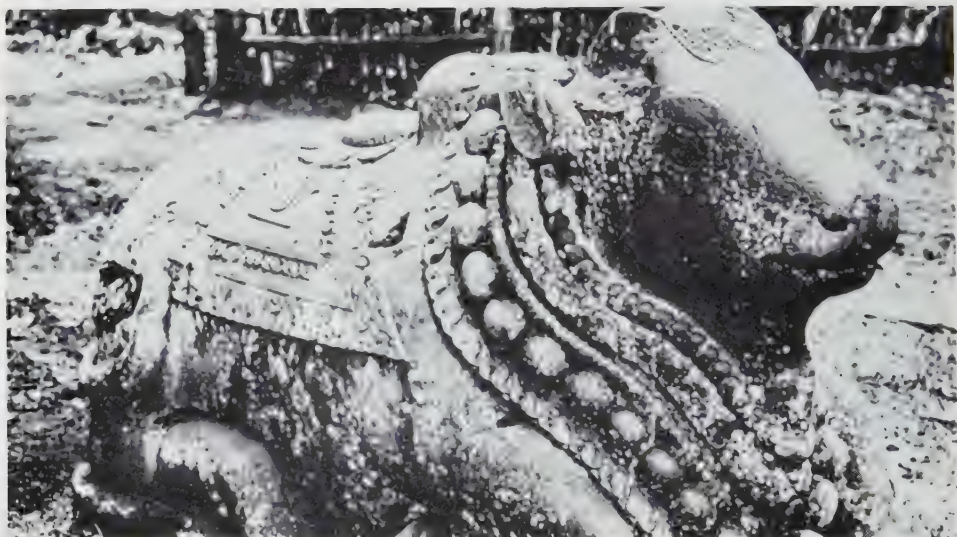


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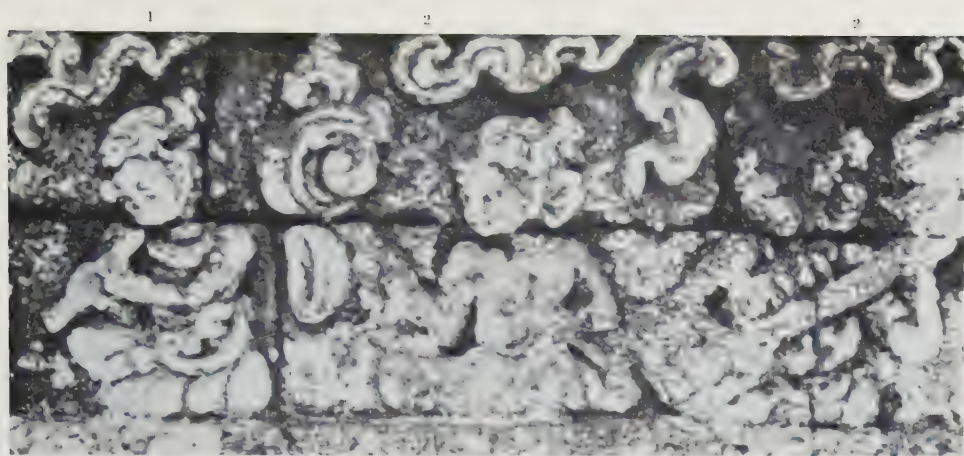


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1. Shawm (?); 2. Long-necked lutes with gourd resonators (After Brandes; see Br. III)



Fig. 51. Relief on Candi Jago (about 1260 A.D.)

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(Photo H. Maclaine Pont)



Fig. 65a. Terra-cotta statuettes found in the soil of the *kraton* of Majapahit (14th century)
Frame-drums (?) or betel-bags (?) (Photo Mantle Hood)



Fig. 65b. Terra-cotta statuettes found in the soil of the *kraton* of Majapahit (14th century)
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Fig. 66. Terra-cotta statuettes found in the soil of the *kraton* of Majapahit (14th century)
 1. Lute of the squat type; 2. Lute of the slender type with a 'cello' scroll.

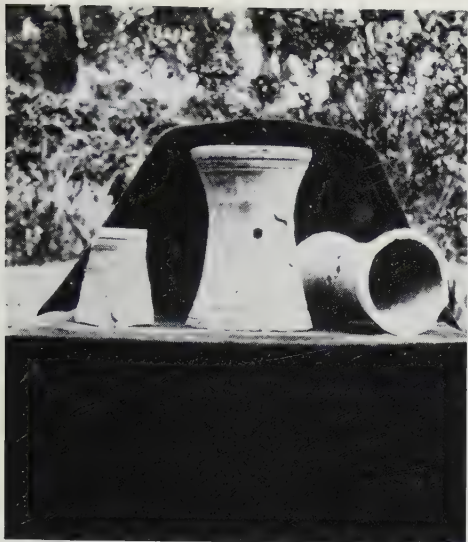


Fig. 67. Found in the soil of the *kraton* of Majapahit (14th century)
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Fig. 68. Relief on Candī Sukuh (Central Java, 15th century)
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2

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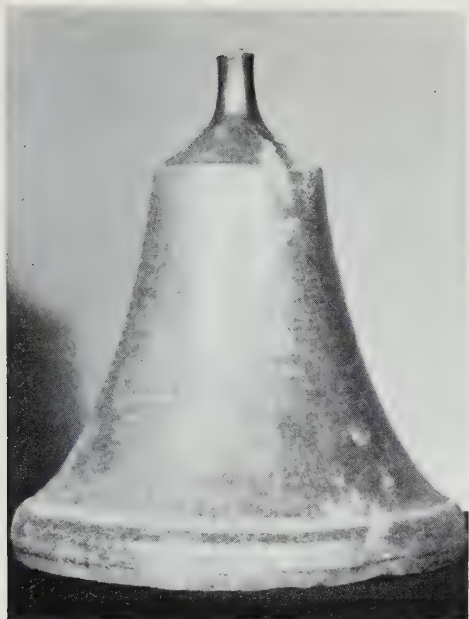


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Fig. 77. Bronze temple bell (Central Java, 9th century) (Photo O.D.)



Fig. 78. Horse or elephant bell
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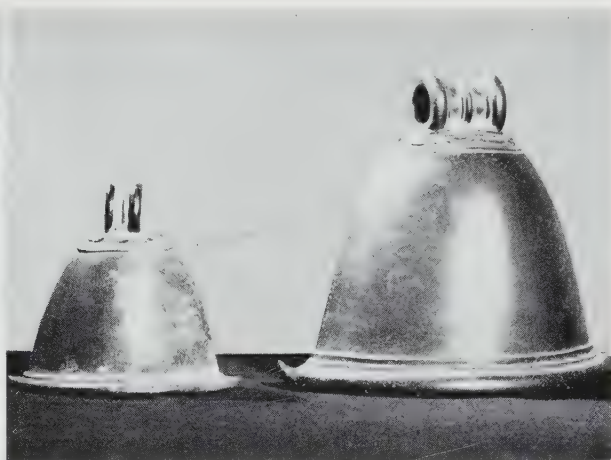


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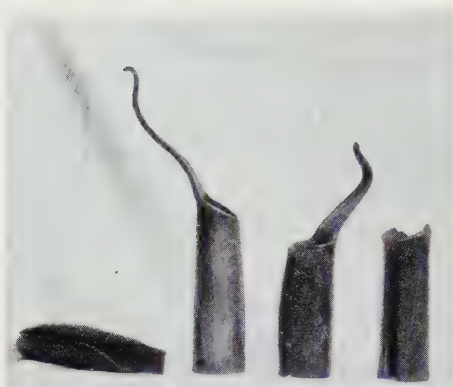


Fig. 80. Old Javanese *kemanak* found in the soil, near Malang (East Java)



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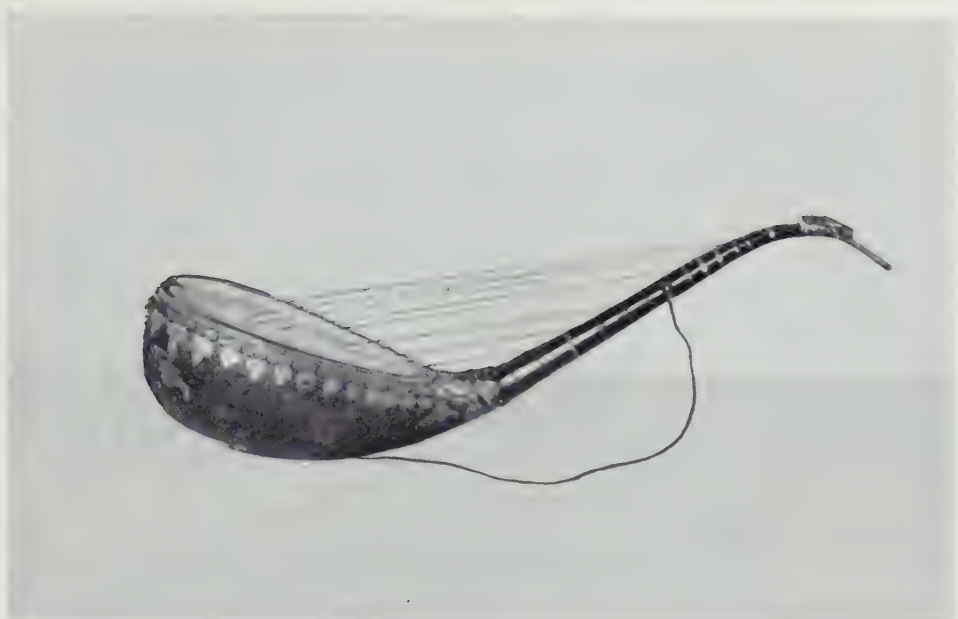


Fig. 83. Thai *p'in* (arched harp) (*Photo Neth. Emb. Bangkok*)



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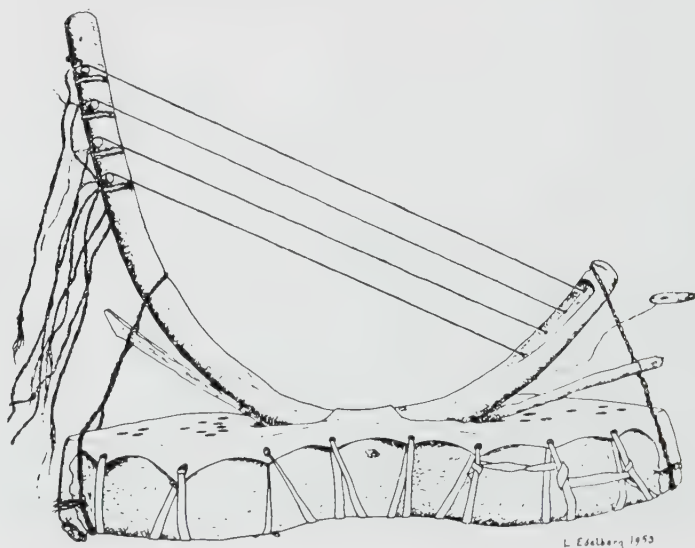


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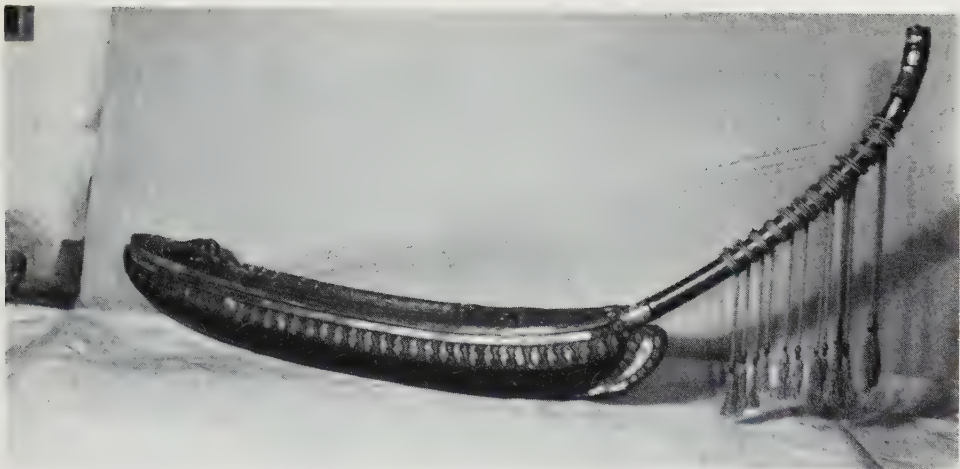


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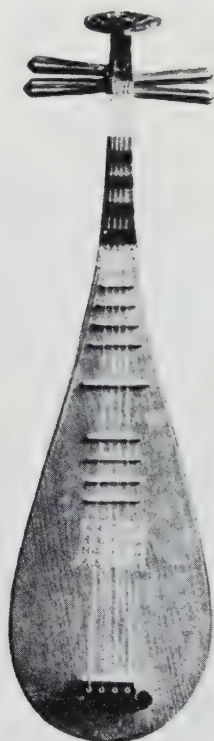


Fig. 88. Modern South Chinese *p'i-p'a*
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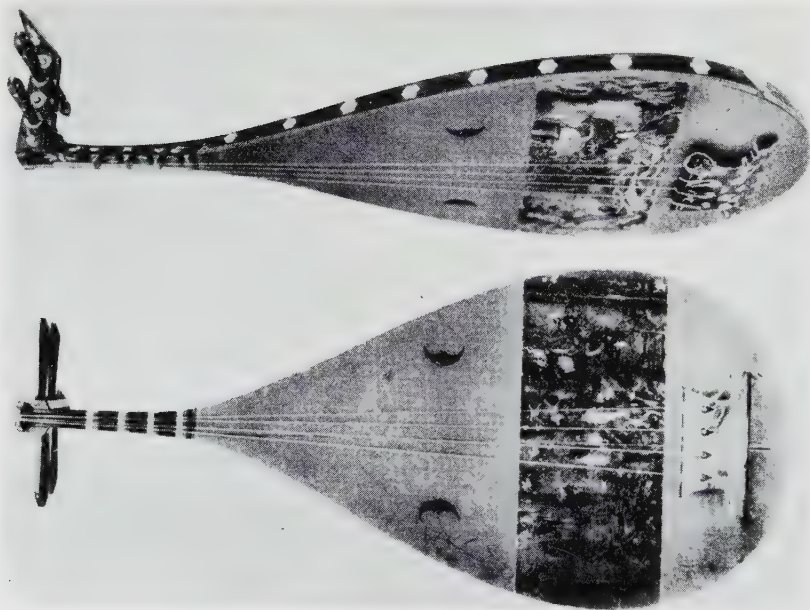


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Fig. 90. North Chinese *pi-p'a* (back side, 8th century)
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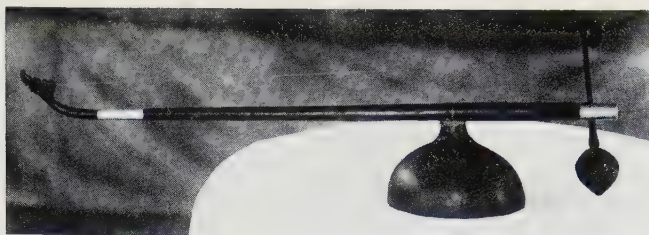


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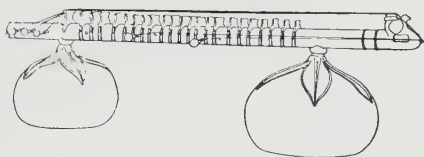


Fig. 93. North Indian *bīṇ*
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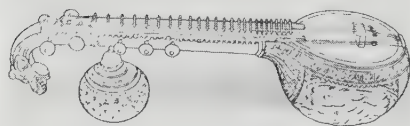


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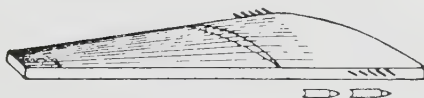


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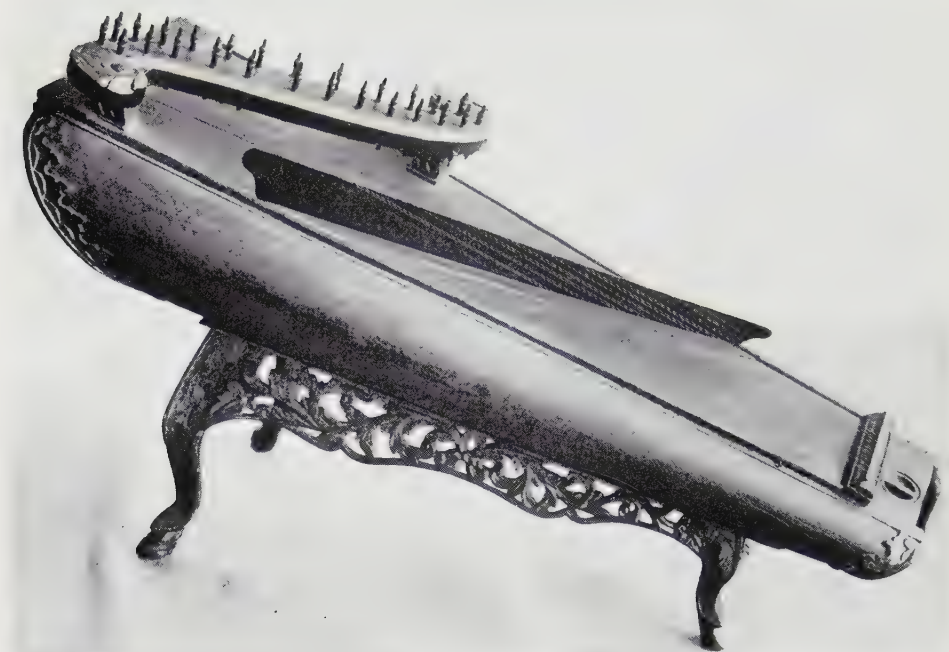


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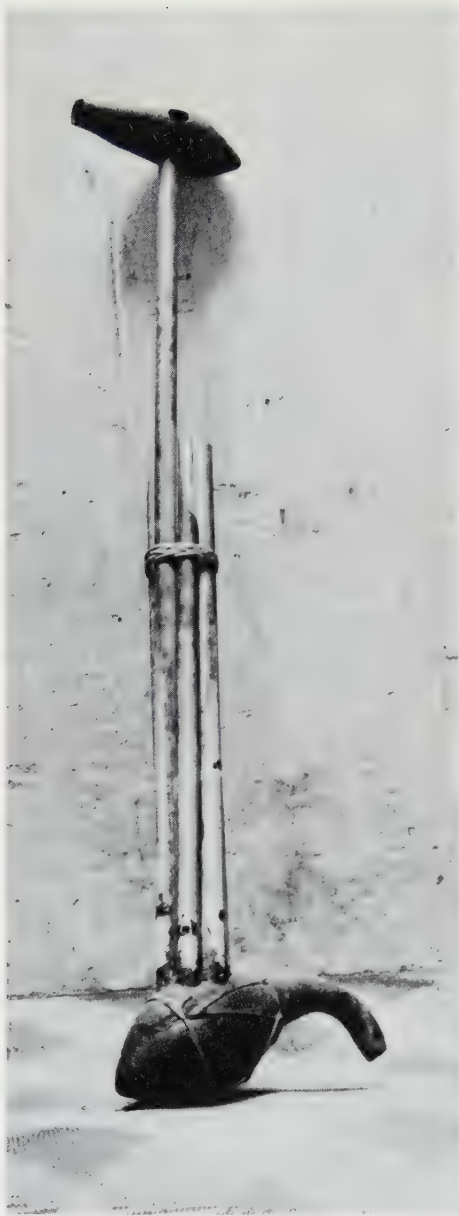


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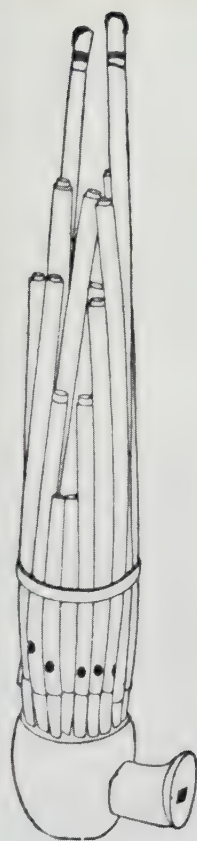


Fig. 102. Chinese mouth organ (*sheng*)
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Fig. 103. Rice-stalk instrument (*After Sachs VIII; fig. 12*)



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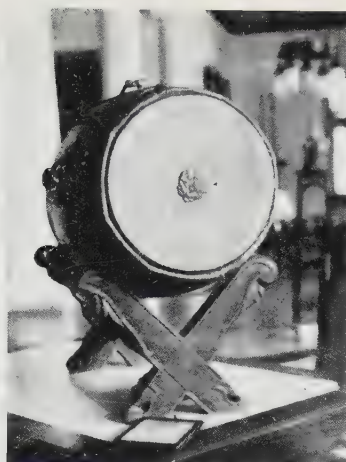


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Fig. 106. Relief on Bayon temple at Angkor Thom (Cambodia, 11th century)
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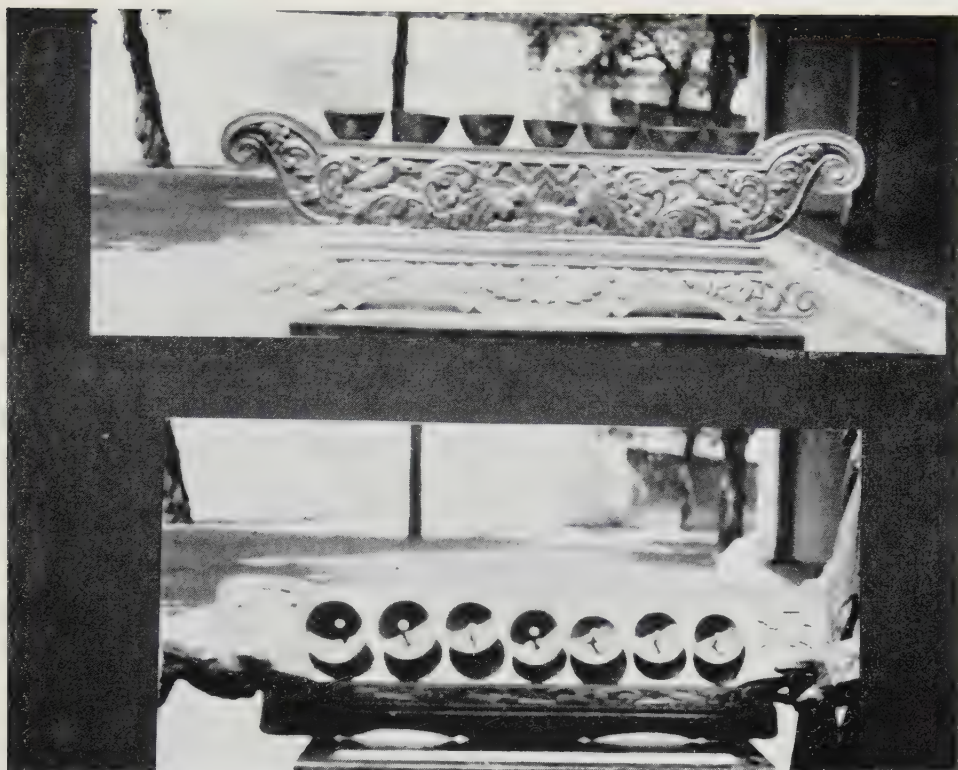


Fig. 108. *Celuring* of the *gamelan Kyahi Kañcil Belih* (Kraton Jogjakarta) (Photo L. Adam)

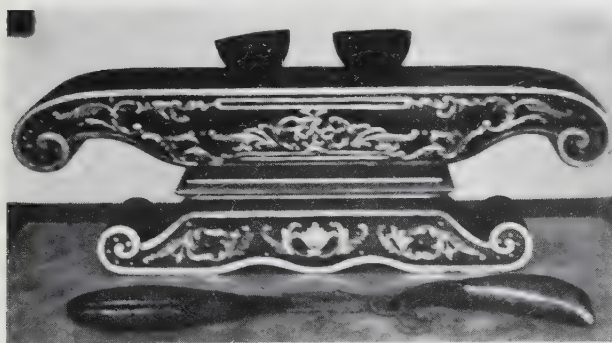


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Fig. 110. Old Javanese *kemanak*
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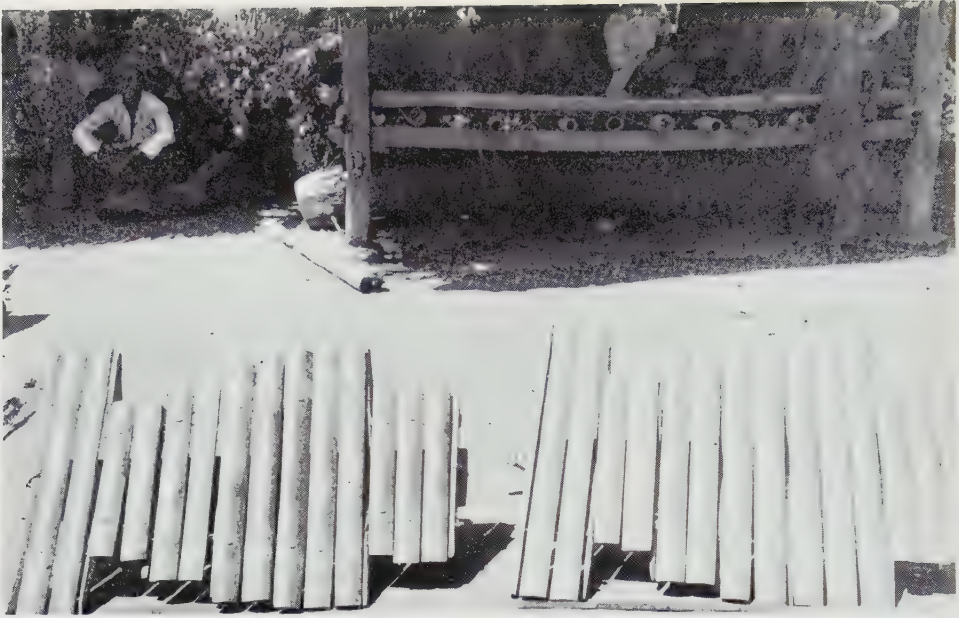


Fig. 111. Modern Balinese bamboo *gambang*s played with V-shaped sticks (*Photo O.D.*)

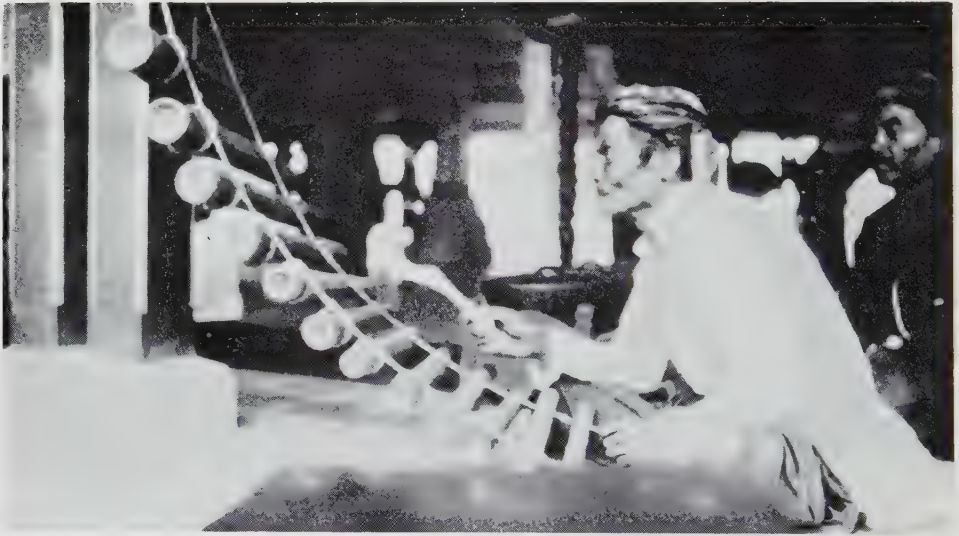


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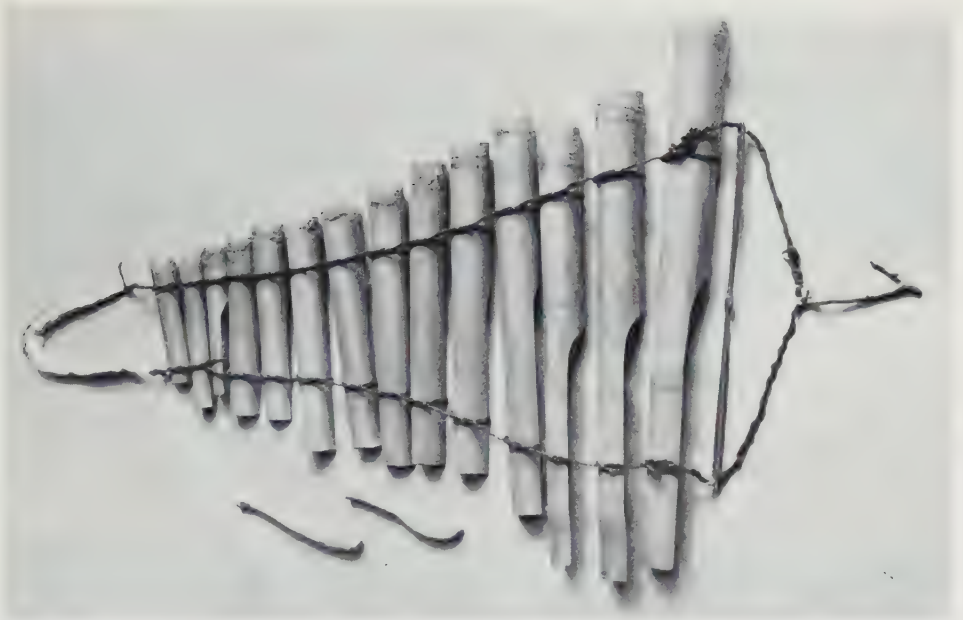


Fig. 113. Sundanese *calung* (Photo R. Trop. Inst.)

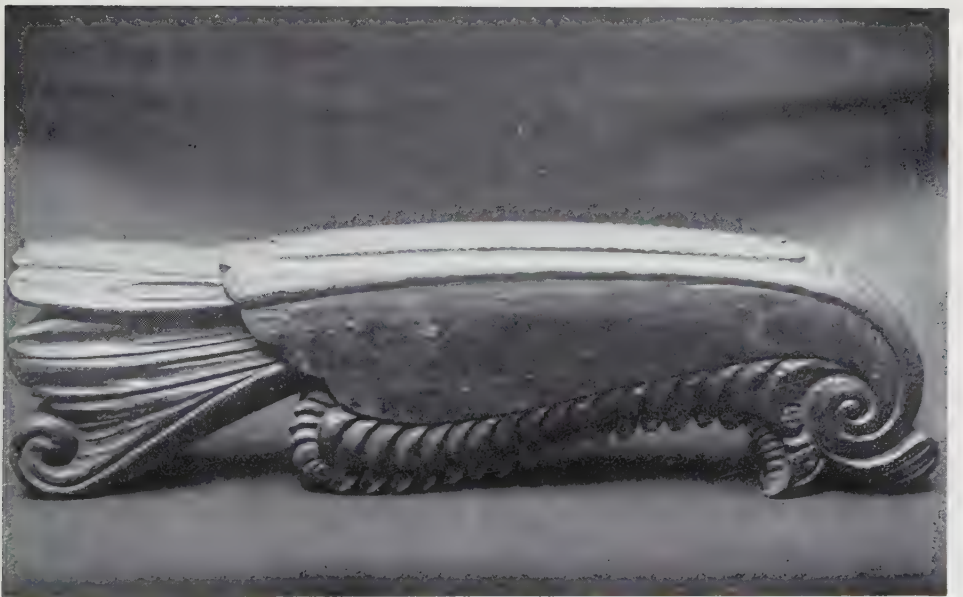


Fig. 114. Bronze scraping instrument from a Solonese *gamelan*
(Photo Mus. du Conservatoire, Brussels)

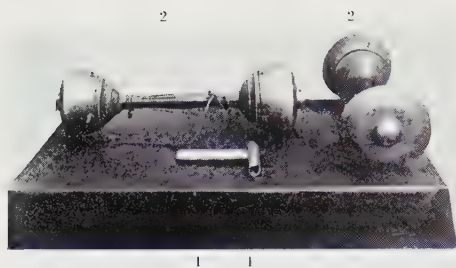


Fig. 115. Modern Balinese
1. *Gumanak* and 2. *Réyong*
(Photo Sukarwati)

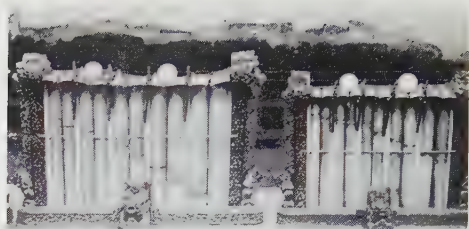


Fig. 116. Modern Balinese *gendèr wayang*
(Photo Sukarwati)



Fig. 117. Modern Javanese *gambang kayu* (Jogjakarta) (Photo R. Trop. Inst.)



Fig. 118. *Saron*, Surakarta (*After Kats*)



Fig. 119. Relief on Barhut
temple (2nd century B.C.)
Arched harps
(*After Coomaraswamy*)



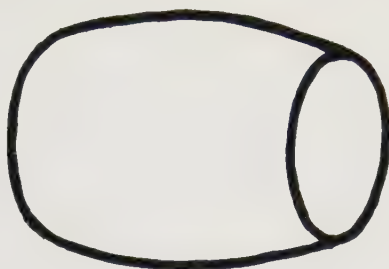
Fig. 120. Arched harp on a Gandhara relief (1st century B.C.) (*After Havell*)

BASIC FORMS OF TWO-HEADED DRUMS

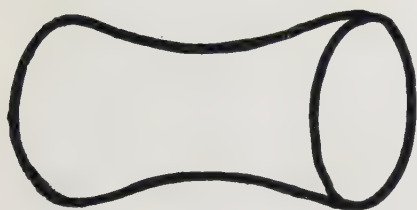
MENTIONED IN THE TEXT



cylindrical



symmetrical barrel-shaped



waisted



asymmetrical barrel-shaped



damaru type



truncated-conical

Fig. 121. After sketches by F. van Lamsweerde

